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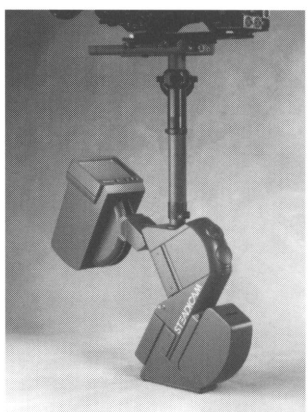

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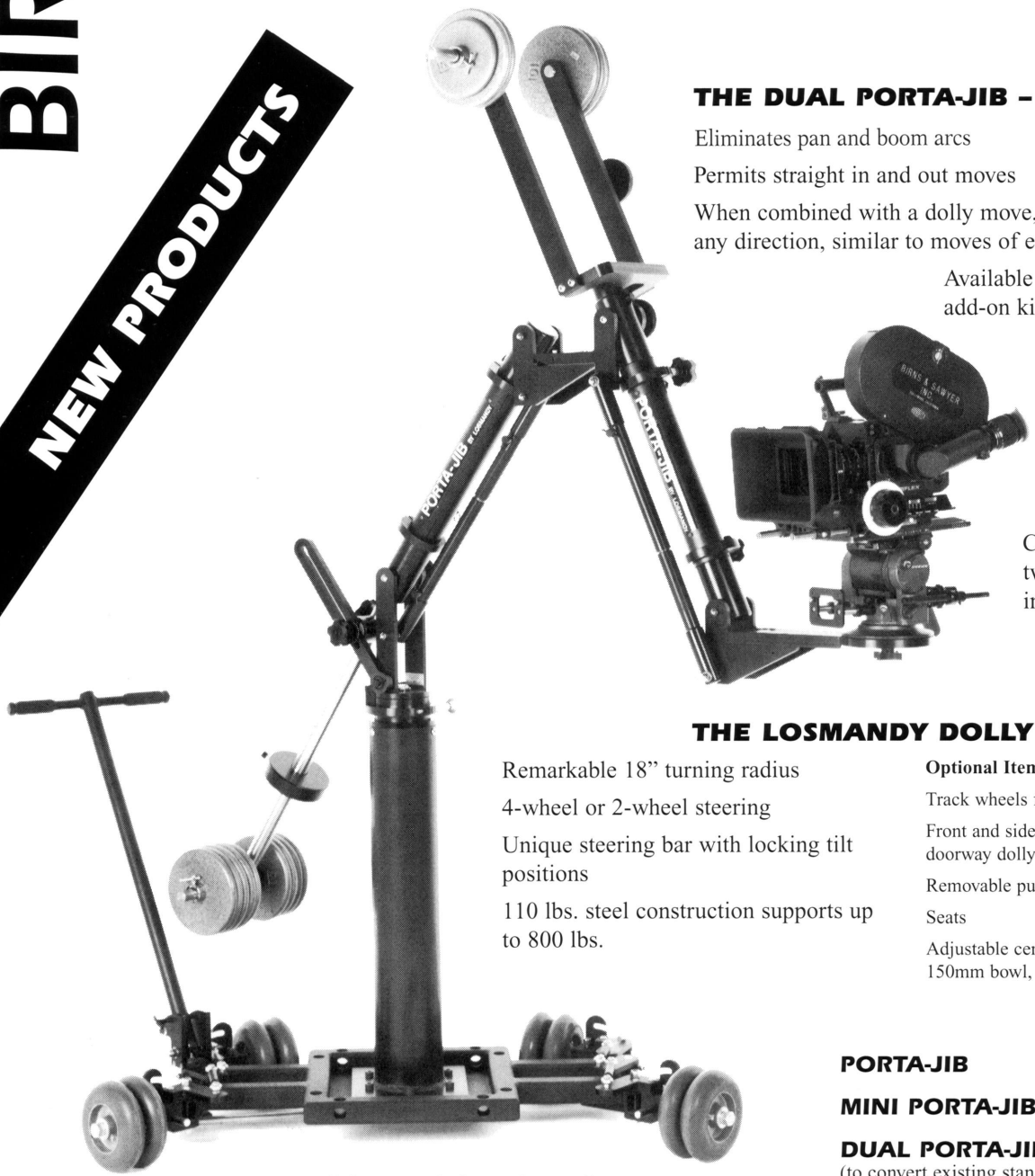

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The International Journal of Film and Electronic Production Techniques

June 1994 Vol. 75 No. 6

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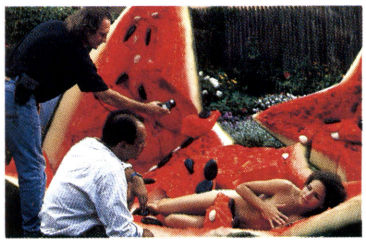

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On Our Cover: In a bold composition by Owen Roizman, ASC, Kevin Costner takes aim at the enemy in Warner Bros.' Western epic *Wyatt Earp* (photo by Ben Glass).

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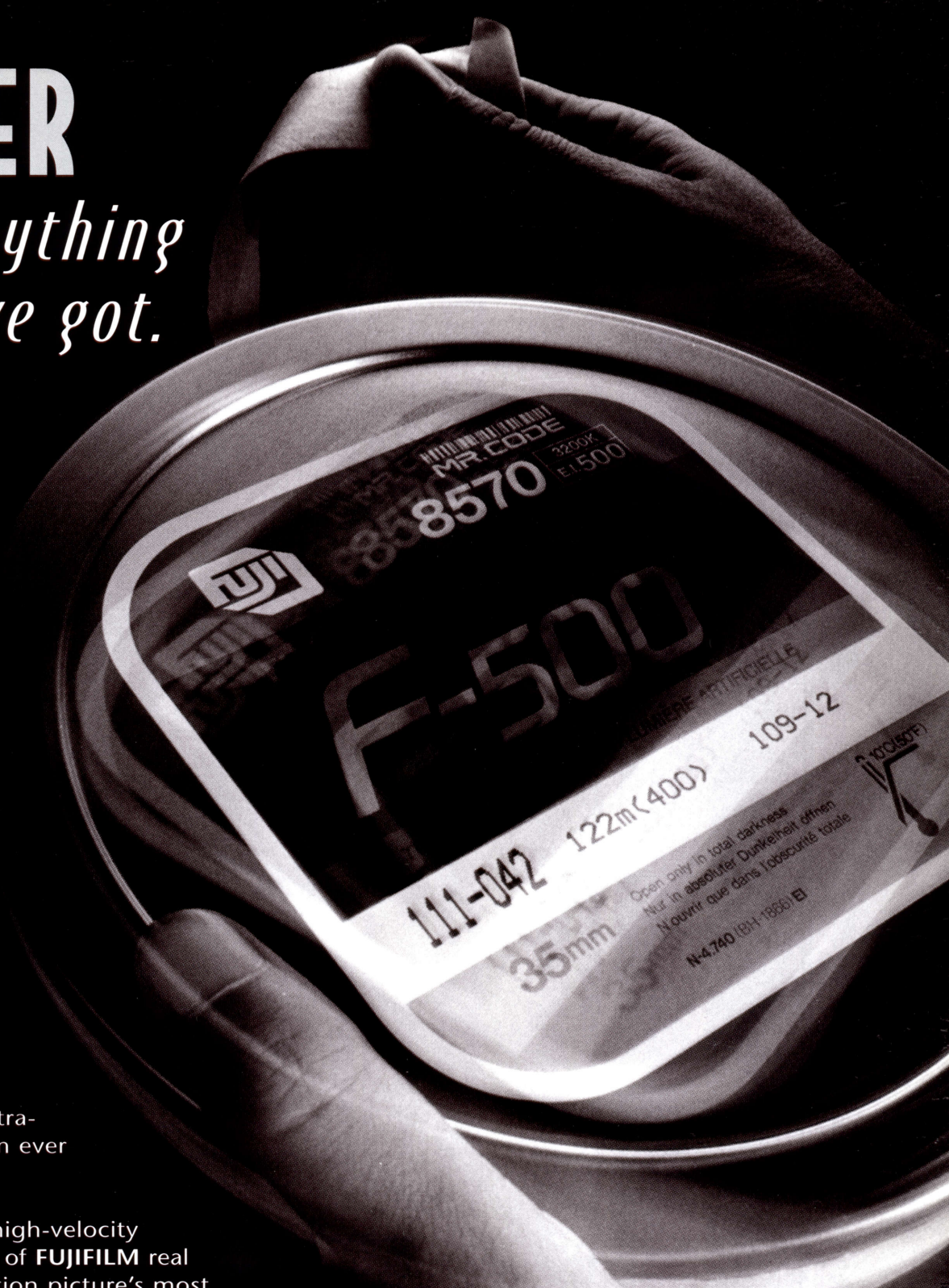

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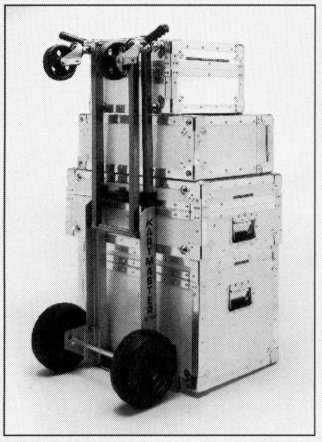

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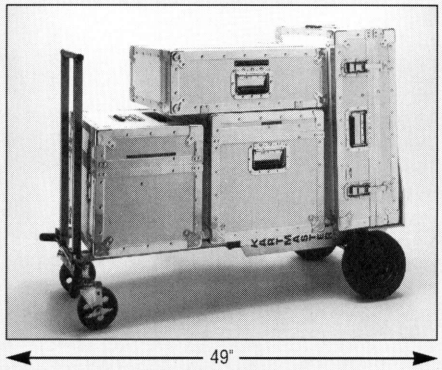

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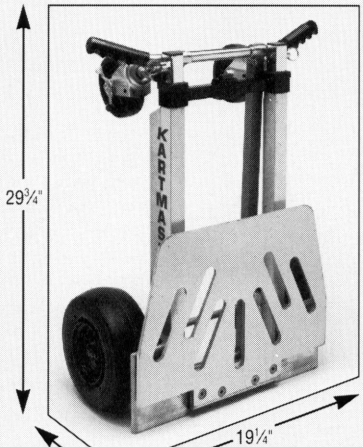

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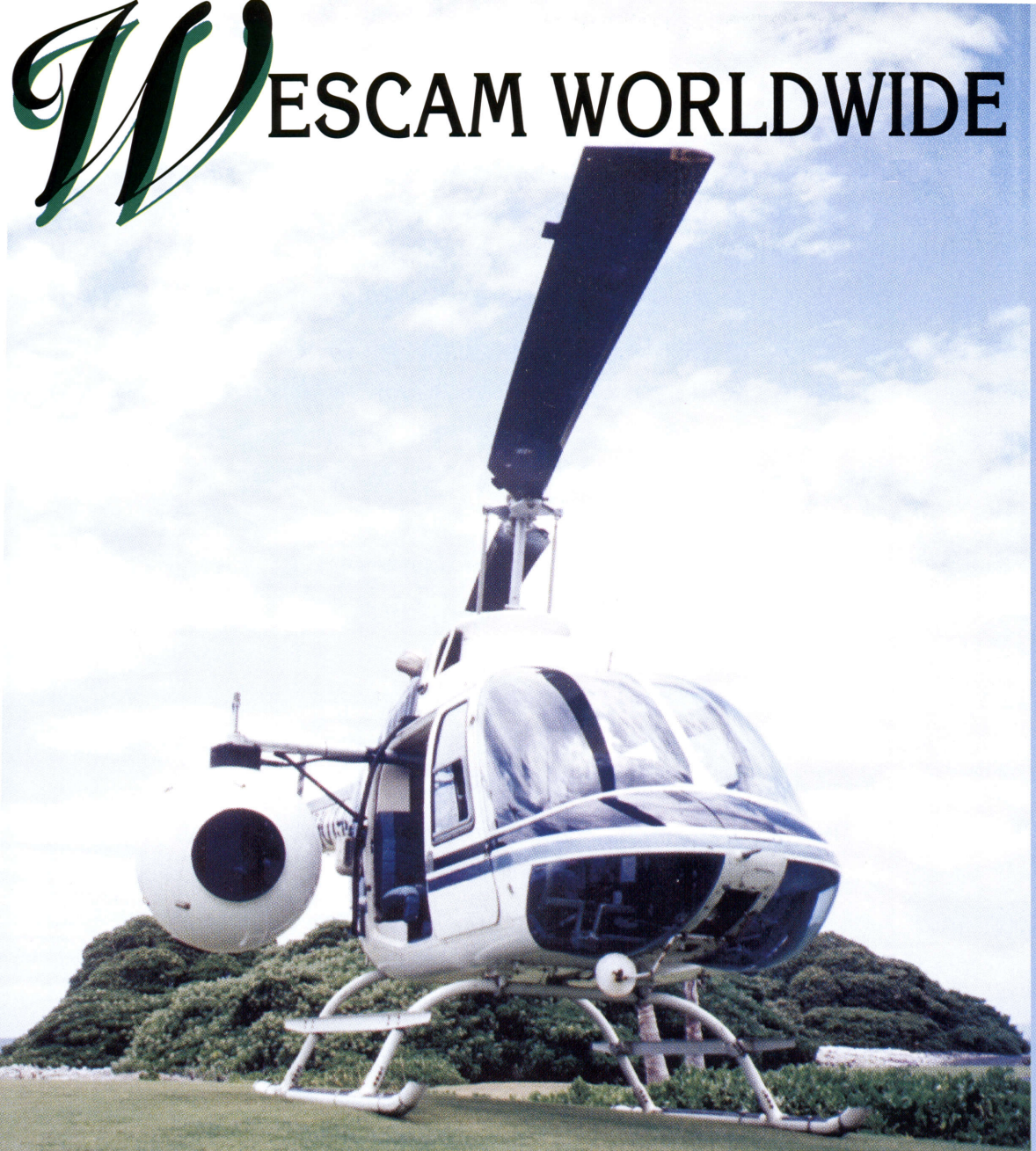

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It's a 35mm Mitchell GC, modified and updated to our specs by Fries Engineering. Manufactured during the late Fifties but never used. When we bought this camera, film had never been run through it.

GC means Government Camera. Mitchell built three of this low-profile model, for the U.S. Navy. Jacques Cousteau uses one; we have the other two. So far, only one has been modified.

Pin-registered high-speed movement, 200 foot loads

The original camera has a registration-pin movement that can run at up to 120 fps, a 200 ft magazine—and no viewfinder. The magazine takes darkroom loads. As you can see, it mounts on the rear. As you can also see, so does the motor.

Reflex viewing, video tap, PL mount

Fries Engineering has put a spinning-mirror reflex front on our camera, together with optics for a video tap. Non-adjustable 180° shutter. The side-mounted video tap adds no height; the viewfinder rotates through 360.° PL lens mount; the lens on the camera here is a Zeiss 85mm T2.1.

Filter slot at the aperture

There's a standard Mitchell hard-matte slot just in front of the aperture plate; you can slide the gel filter of your choice in there. And, of course, we have Series 9 (and bigger) glass filters and mounting adapters.

Motor lets you use modern electronics

It's a modified Fries motor that gives you crystal control at 24 and 30 fps. You can plug in most of the electronics available at Clairmont: Strobes, Precision Speed Control, Film/Video Synchronizer, Electronic Projector Interface, HMI/TV Sync Box (crystal at 7.5, 15, 24, 30, 40, 60 and 120 fps). We've added an electronic tachometer and footage counter.

Height compared with other cameras:

With video tap, our Mitchell GC is 6¾ inches tall. That's 1¾ inches lower than an Eyemo, 5¾ inches lower than an ARRI 35-3 with shoulder magazine and video tap, 8¾ inches lower than a 35BL with its video tap.

Other specs:

It's 11½ inches wide with video tap and viewfinder, 8½ inches wide without viewfinder. Without lens, it's 28 inches long and weighs 35 pounds. Camera base to lens axis is 3⅜ inches; lens axis to top of camera is the same. (On the BL and the Type 3, camera base to lens axis is 4⅛ inches.)

For flying: two sockets

Obviously, this camera is a natural for flying through tight spaces—car windows, for example. To make it easier to fly, we've installed two standard tripod sockets on the camera: one on the bottom, one on the top.

Camera driven over by a car

Before we took these pictures of this GC camera, Director of Photography Bob Steadman drove a car over it for an Oldsmobile commercial. First Assistant Kim Guthrie and the crew made an indentation in the asphalt with an impact hammer and positioned the GC camera horizontally.

How low can you get this camera?

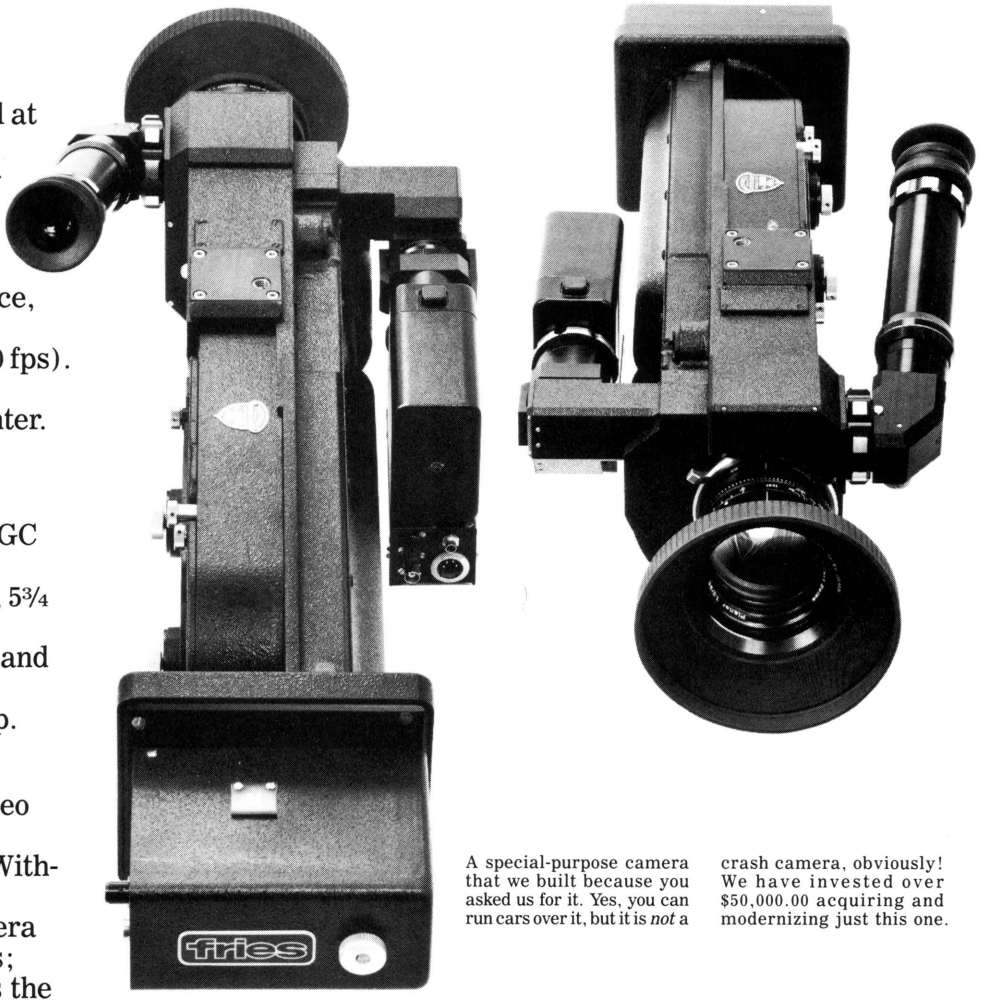
The ARRI Standard Mount Zeiss hard lenses (16, 24, 32, 50 and 85mm) all have barrels a hair over 2 inches in diameter. So there's a little over 2¼ inches between the bottom of those lenses and the GC camera base.

Top of camera 4½" above ground

If you position the camera with its base 2¼ inches below ground, the bottom of those Standard Mount lenses will be at ground level. The top of the camera will then be almost exactly 4½ inches above ground.

Std mount lenses on a PL mount camera?

The outside diameter on these Standard mount lenses is about an inch smaller than the PL mounts in the same focal lengths —so you can get the camera a half inch lower. If you're going to run a car over it, every little bit helps.



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compiled by Marji Rhea and Stephen Pizzello

Rinzler Honored by IFP

Lisa Rinzler took the Independent Spirit Award for Best Cinematography during this year's ceremony, held at the Hollywood Palladium on Saturday, March 19. Rinzler was recognized for her photographic contribution to the film *Menace II Society,* an uncompromising look at life in Los Angeles' inner city. Her fellow nominees were James R. Bagdonas (*American Heart*), Elliot Davis (*Equinox*), Nancy Schreiber (*Chain of Desire*) and Alex Vlacos (*Ruby in Paradise*).

The Spirit Awards are presented by the Independent Feature Project/West. The Palladium festivities were hosted by writer/director Robert Townsend, with film critic Roger Ebert taping interviews for a later broadcast on the Bravo cable network.

Winners in other major categories were as follows:

Best Feature: *Short Cuts* (Fine Line Features).

Best First Feature: *El Mariachi* (Columbia).

Best Foreign Film: *The Piano* (Miramax).

Best Director: Robert Altman, *Short Cuts.*

Documentary Oscars

The Academy of Motion Picture Arts and Sciences presented Best Documentary Oscars to *I Am a Promise: The Children of Stanton Elementary School* (feature-length) and to *Defending Our Lives* (short subject) during this year's 66th annual ceremony, held on Monday, March 20 at the Dorothy Chandler Pavilion in Los Angeles. Prior to the ceremony, the Academy and the International Documentary Association hosted the 12th Annual Documentary Oscar nominees reception on Thursday, March 17 at the Motion Picture Academy in Beverly Hills.

I Am a Promise, produced by Alan and Susan Raymond and directed by Susan Raymond, presents an unflinching portrait of elementary school children living below the poverty line. After the duo accepted their Oscars, Alan Raymond commented, "I hope that this award will help focus America's attention on the 12 million people living in poverty in this country."

Defending Our Lives explores the magnitude of domestic violence in America via interviews with eight women whose lives were actually endangered. The film was produced and directed by Margaret Lazarus and Renner Wunderlich.

Other nominees in the feature-length category included *The War Room* (produced by R.J. Cutler, Wendy Ettinger and Frazer Pennebaker; directed by D.A. Pennebaker and Chris Hegedus); *The Broadcast Tapes of Dr. Peter* (produced by Arthur Ginsburg); *For Better or Worse* (produced and directed by David Collier; co-produced by Betsy Thompson); and *Children of Fate* (produced by Adam Friedson; directed by Andrew Young and Susan Todd). Rounding out the list of short subject nominees were *Blood Ties: The Life and Work of Sally Mann* (produced and directed by Steven Cantor; co-directed by Peter Spirer) and *Chicks in White Satin* (produced by Jason Schneider; directed by Elaine Holliman).

Rez.n8's 3-D animated mascot for CBS's Sports Winter Games coverage in Lillehammer.

Winter Games Promotion

For a commercial for CBS Sports promoting coverage of the 1994 Winter Olympic Games in Lillehammer, Norway, ReZ.n8 Productions brought to life a deer in a Norwegian winter forest scene. Using the Elite motion-capture technique to capture the animal's movement, the team placed reflector marks on all the joints of the body, and Robert Maiocchi used the system's four cameras to capture the motion in 3-D using two cameras at a time. Once the framework was developed and the motion data imported into the computer, effects animator Sean O'Gara added lighting, atmospheric effects, and shading. Bob Peterson worked on the blinking of the eyes and the movement of the ears.

For information: ReZ.n8 Productions, 6834 Hollywood Blvd., Hollywood, CA 90028, (310) 957-2161.

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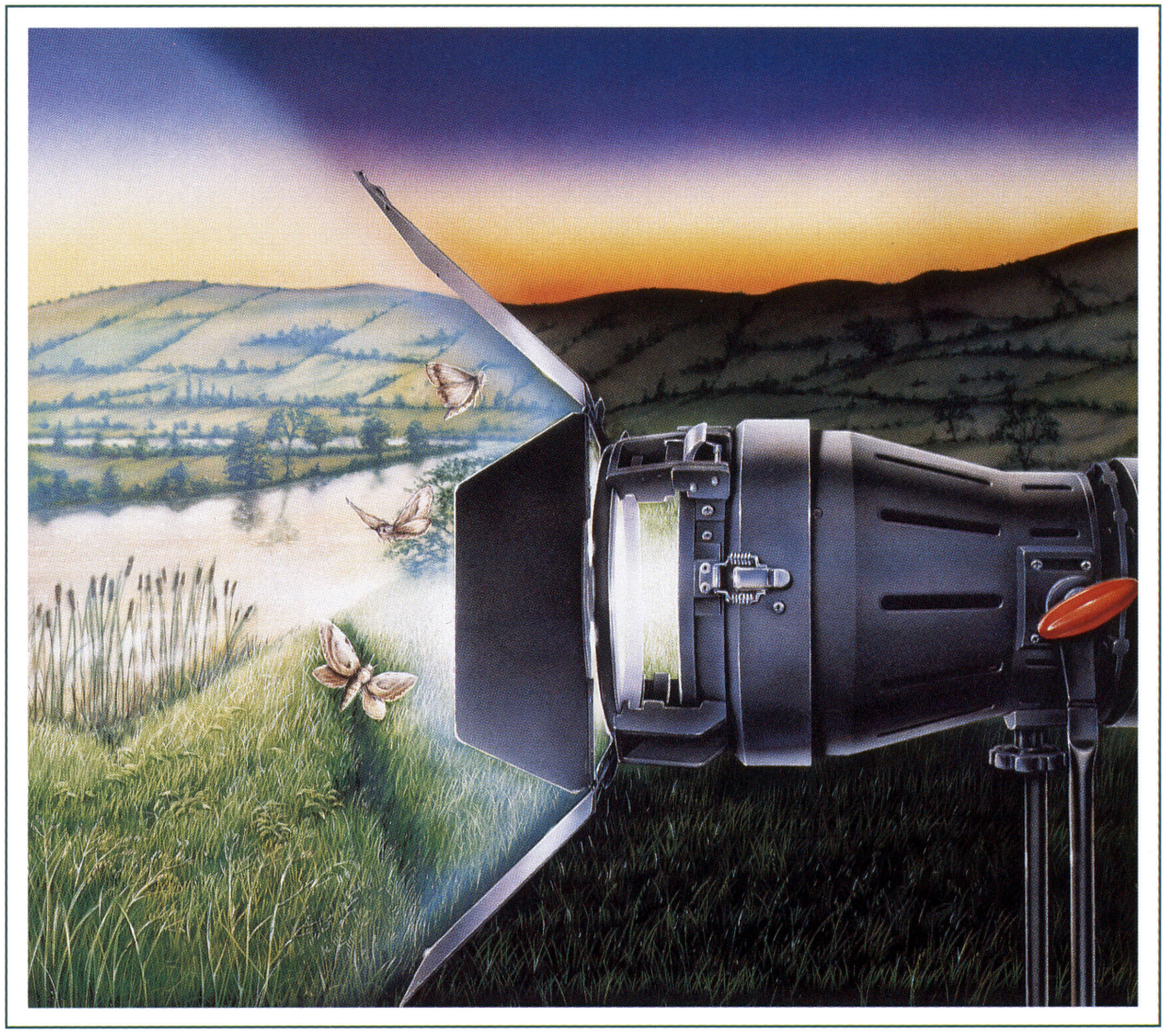

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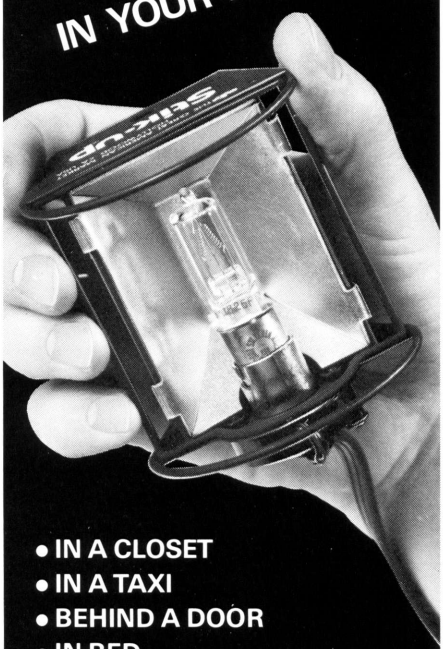

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For information: Cinema Rentals, 6456 Wilkinson Avenue, North Hollywood, CA 91606, (818) 760-3966, FAX (818) 760-3067.

IDA Seeks Submissions

The International Documentary Association has issued a call for entries of non-fiction films and videos for its 10th annual awards competition. In addition to the five documentaries which will be honored with IDA Distinguished Documentary Achievement awards, a new awards category has been added this year for the documentary short. The award will be given for the best non-fiction work that runs 35 minutes or less.

All of the awards, as well as the IDA Lifetime Achievement and Scholarship and Preservation Awards, will be presented at the Annual IDA Distinguished Achievement Awards ceremonies in Los Angeles on October 28. The winning entries will be featured at DocuFest, a day-long public screening at the Los Angeles County Museum of Art on October 29.

An IDA committee will screen all of the entries, selecting up to 20 nominees. Entries in the competition must have been completed or had their primary release between January 1, 1993 and May 30, 1994. Any film or video format is eligible. Deadline for submissions is June 30.

The IDA is also seeking entries for the David L. Wolper Student Documentary Achievement Awards. The winner receives a $1,000 cash prize and $1,000 in film stock donated by Kodak. The winning documentary, along with several other films and videos entered in the competition, will also be included in a four-hour video compilation that will be made available to film schools worldwide. Entries must have been produced by registered students and completed after January 1, 1993. Submissions must be on half-inch VHS video cassettes, NTSC or PAL only. Deadline for entries is July 1.

For information: IDA,1551 S. Robertson Blvd., Suite 201, Los Angeles, CA 90035, (310) 284-8422, FAX (310) 785-9334.

Stelladat Purchased

Sonosax has purchased the assets of Digital Audio Technologies, makers of the Stellavox and Stelladat recorders. The transaction includes the trade names along with the tooling, machinery and spare parts. Sonosax engineers have designed numerous improvements for the compact R-DAT recorder; the modular Stelladat now features a 50

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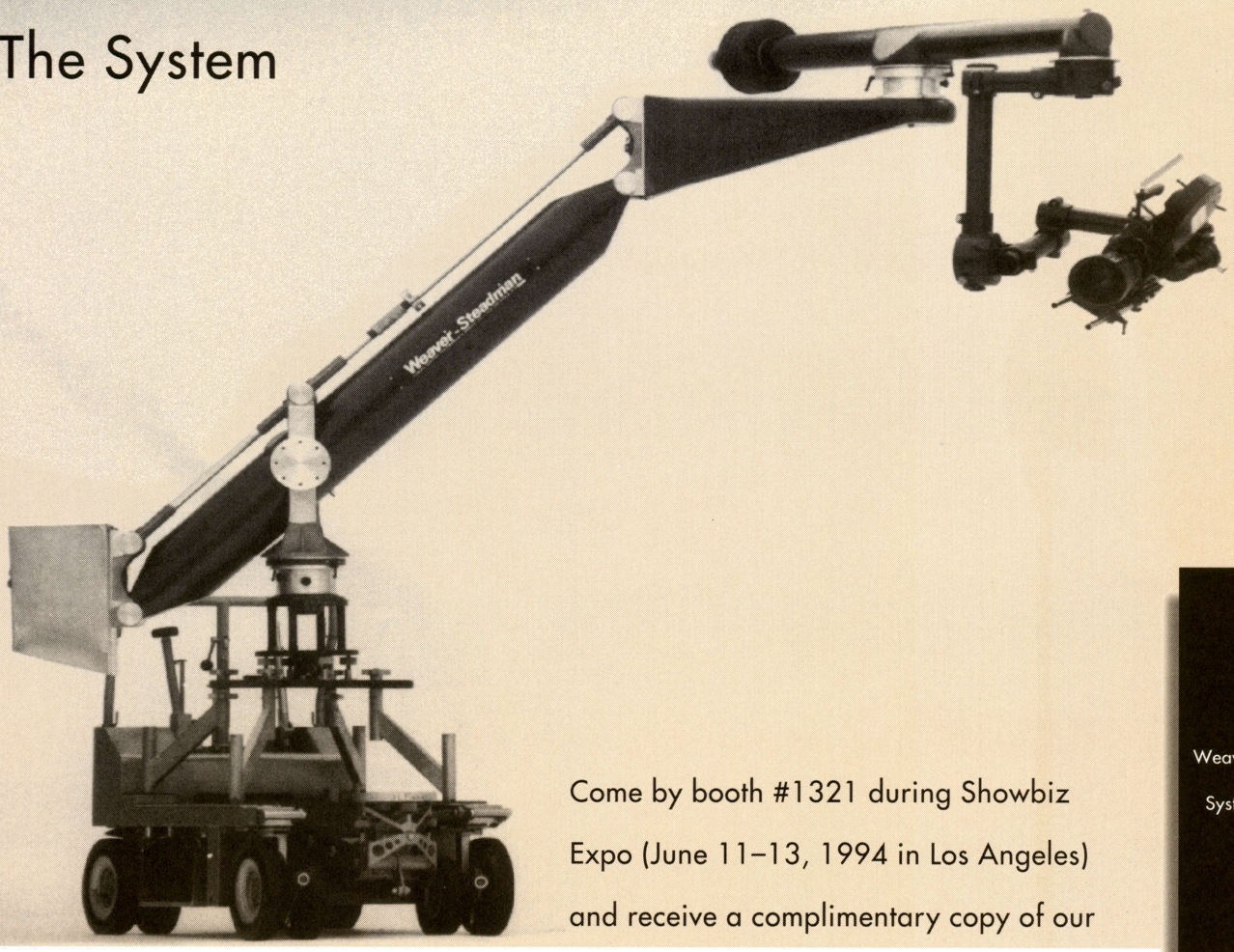

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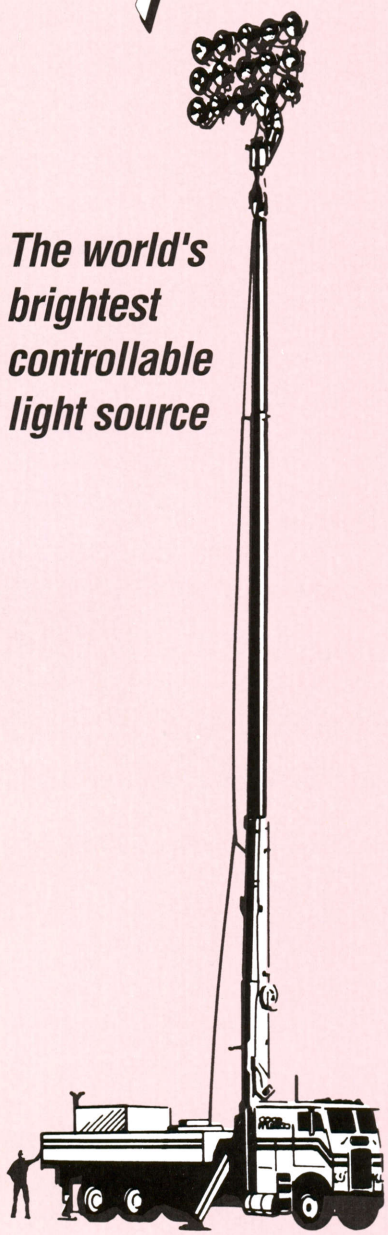
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For information: Sonosax USA, Inc., 5417 Cahuenga Blvd. #C, North Hollywood, CA 91601, (818) 766-3137, FAX (818) 766-2859.

Digital Effects House

The Digital Lab, a digital effects compositing house, recently opened its doors, offering clients compositors and Harry artists on a freelance basis, as well as renting bays on a per-project basis. The company is a joint venture between Alan Barnett and Melissa Davies, principals of Sight Effects, Inc., and Rudy Hassen, who will be chief engineer and consultant.

Located in Venice, the Digital Lab will initially offer Discreet Logic's Flame, running on a SGI Onyx Platform capable of accepting up to 32 CPUs, and Quantel's Harry with Flash FX and V Series Paintbox.

For information: The Digital Lab, (310) 399-5670.

Canada Animation School

The Vancouver School of Animation and Multimedia Ltd. has been approved as a trade school by the Private Post-Secondary Education Commission of British Columbia. Western Canada's first independent animation school offers a concentrated, ten-month certificate program in traditional animation. The school offers personalized instructions with limited class sizes, and a high equipment-to-student ratio.

Also setting up shop is Disney Studios, which recently received approval to locate its first Canadian animation studio in Vancouver, to cater primarily to television production.

For information: (604) 322-4693.

Production Facility

The new Warren Entertainment Center, located in the Santa Clarita Valley, is a multilevel media complex which will house the expanded Lindsey Studios standing set facility. The new studio will be more than four times as large and will offer stage space for set construction as well as the permanent standing sets.

The 80,000-square-foot facility contains approximately 90 production offices as well as full-service mini-suites for industry-related companies, services, and products. The complex also includes a service commissary and day care center, as well as plans for a theater and two screening rooms.

More than 3500 square feet is allocated to industry-related exhibition and display space. The facility is currently in discussion with various vendors for props, lighting equipment, stock units, and editing facilities to occupy another 35,000 square feet of the media center.

For information: Lindsey Studios, (805) 257-9292.

Hispanic Production Company

Three experienced filmmakers have joined hands with nine internationally known Hispanic directors to form a film company specializing in commercials for the Hispanic community. Lisa Cobb, Miriam San Martin and John Ehrenfeld's Colibri Films will handle production responsibilities for clients who wish to reach Spanish-speaking consumers in their own language. The three producers have years of production experience behind them and strong ties to Hispanic culture. The nine directors hail from Argentina, Chile, Costa Rica, Peru, Mexico, and Venezuela, and have among them commercial credits for Renault, 7-Up, Coca Cola, Chevrolet, Heineken, Nissan, Levi's, Pepsi, and Honda.

For information: Colibri Films, Inc., 2700 Fairmount, Atrium Court, Dallas, TX 75201, (214) 220-2828, (214) 720-7720.

Low-Budget Production

A new production facility, geared specifically for shooting low-budget film projects, is approaching completion in midtown Manhattan. Raw Space, a 33,000-square-foot production facility, has been transformed from the 42nd Street Armory and consists of four large shooting stages, three rehearsal spaces, a large shop for scenic building, several production offices, dressing rooms, wardrobe space, hair and makeup stations, and an abundance of additional space that can be custom designed to suit special needs. Other amenities include a 13-foot drive-in loading dock, conference rooms, catering services, and health club privileges.

Features already completed at the facility include *Water Ride* and *Ride*

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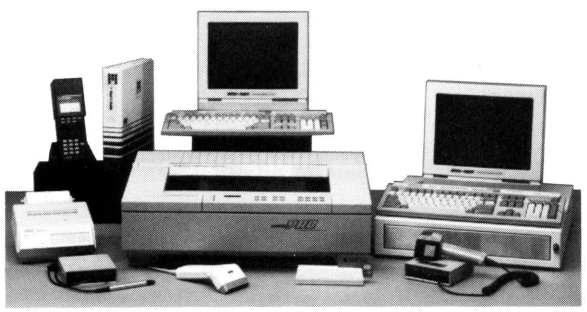

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For information: Raw Space, 529 West 42nd Street, NYC 10036, (212) 643-6399, FAX (212) 643-0768.

Kodak Site

Eastman Kodak has opened an 84,000-square-foot building in Hollywood to house an expanded Cinesite digital film center, in addition to officially launching the company's entry into the film preservation business. The new facility is located adjacent to the Kodak Marketing and Technology Center. The ground floor contains a modern warehouse and film distribution center. The Pro-Tek film preservation vaults and film inspection services center occupies the second floor of the new building. The company operates three state-of-the-art ProTek film preservation vaults for medium and long-term storage. It also provides on-site film inspection services designed to quickly and efficiently diagnose damage from handling and natural causes.

The third floor is occupied by the Cinesite digital film center, which provides a wide range of film scanning, recording, image computing and image processing services.

For information: (213) 464-6131.

Colossal Sneaker Spot

Colossal Pictures has created a :30 spot featuring classic Warner Brothers cartoon characters in their latest incarnation as appliques on Keds sneakers. Using a combination of stop-motion, cel and effects animation, the production team has brought to life a spoof on the old Saturday cartoons: Tweety Bird sways happily on his swing, oblivious to impending doom; the Tasmanian Devil emerges in a furious whirlwind, laces flying; Bugs Bunny pops out of his rabbit hole and wiggles his shoelace ears; the Road Runner whizzes through the desert and skids to a halt; and Marvin the Martian, landing his spaceship, is blown to smithereens in a flash of light.

The sneakers were shot stop-motion against Warner Brothers-style 3-D backgrounds, which were traditionally painted and then scanned into a Macintosh computer and output to an Iris printer. The backgrounds were then cut out and mounted on multiplane levels in

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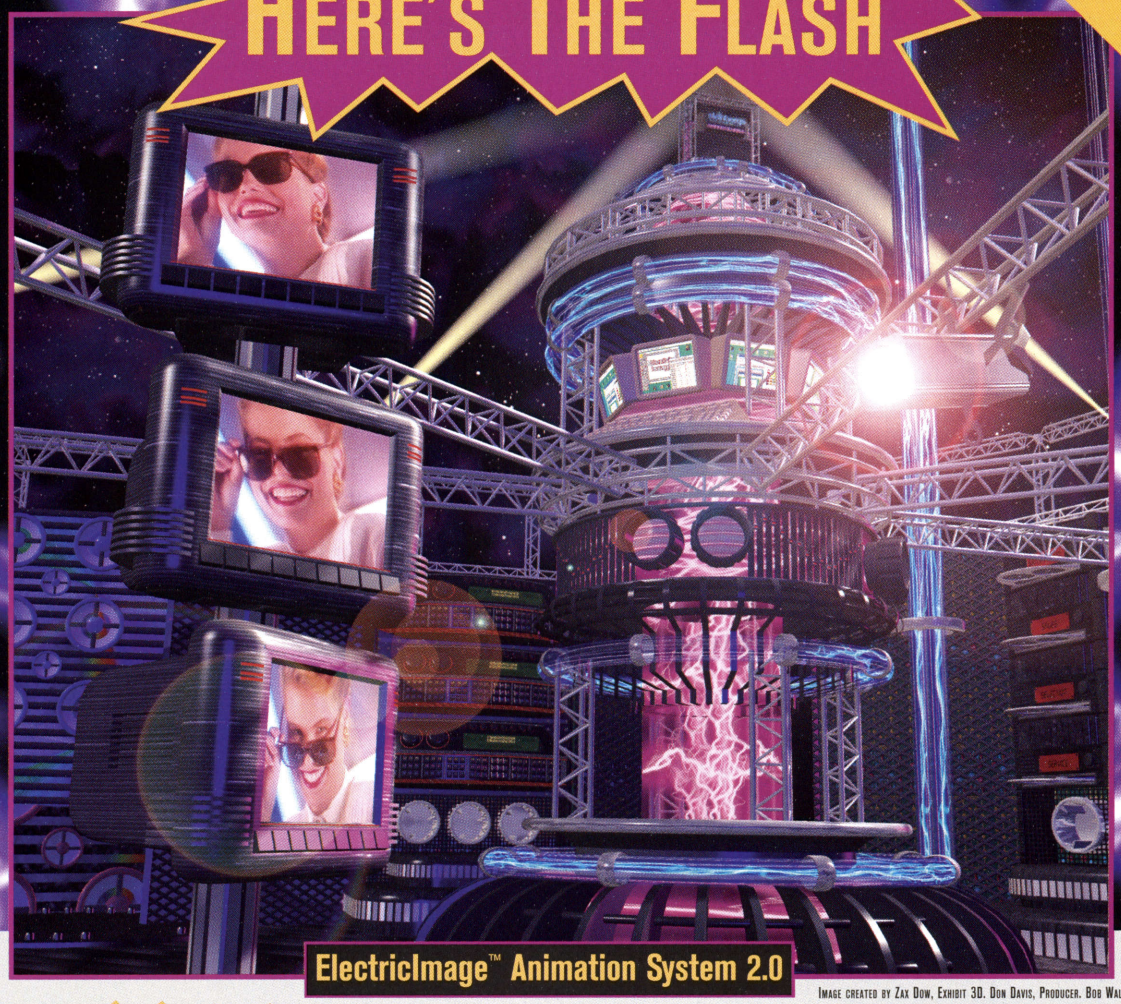

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Image created by Zax Dow, Exhibit 3D. Don Davis, Producer. Bob Walther, Tech. Dir., for Steinberg Superstores. Rendered in ElectricImage. Modeled in Form•Z™

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RENDERING FEATURES

Flat, Wireframe, Gouraud & Phong shading; Summation Texture Mapping; MIP Texture Mapping; Field rendering; NTSC & PAL presets; Motion Picture lens types; User definable resolution up to 16k x 16k.

EXTERNAL RENDERING ENGINES

Available separately for both Silicon Graphics™ and Power Macintosh™.

ANIMATION FEATURES

Object cycling; Repeating channels; Oscillating channels; Look At feature *(all object classes)*; All surface attributes animate; Field, Frame, Keyframe, Time-based animation; Link lights, Camera and Models together; Hierarchical animation; Temporary linking; Independent object motion.

SYNC SOUND

Displayed in the Project Window; Frequency range is 5 to 64 Khz; Preview Sync-Sound animations in realtime and save them in Quicktime® format. Unlimited soundtracks.*

INTERFACE FEATURES

Interruptable drawing *(no waiting)*; Polygons drawn in actual colors; Interactive shaded views; Quicktime® support; Field chart overlay; Plug-ins; Project Window-view data in Time, Frame, Keyframe, Field, Index.

ADDITIONAL FEATURES

Digital Compositing; Frame controllers for Diaquest™, Abekas™ A-60 *(supports Abekas Exabyte™ 8200 format)*, Lyon Lamb™, Sony LVR™; PostScript® Type 1 fonts to 3-D model conversion with automatic beveling and filleting.

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MAX. TEXTURES	4,000,000*
MAX. LIGHTS	4,000,000* *Light Types*—Spot, Radial, Parallel, Camera, Tube
LIGHT EFFECTS	Glows, Fog, Lens Flares
SHADOWS	Z Buffer Type—Cast From Spot, Parallel, Radial
OBJECT DEFORMATIONS	Arbitrary Scale, Arbitrary Shear, Twist, Taper, Bend, Bulge, Linear Wave, Circular, Wave, Beziér
ANTI-ALIASING	Oversample, Adaptive
MOTION PATHS	Beziér Spline, Hermite Spline, Natural Cubic Spline, Linear
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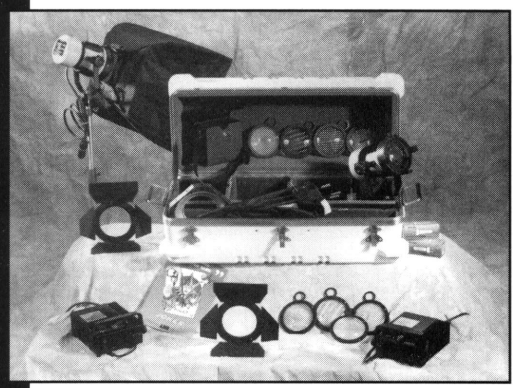

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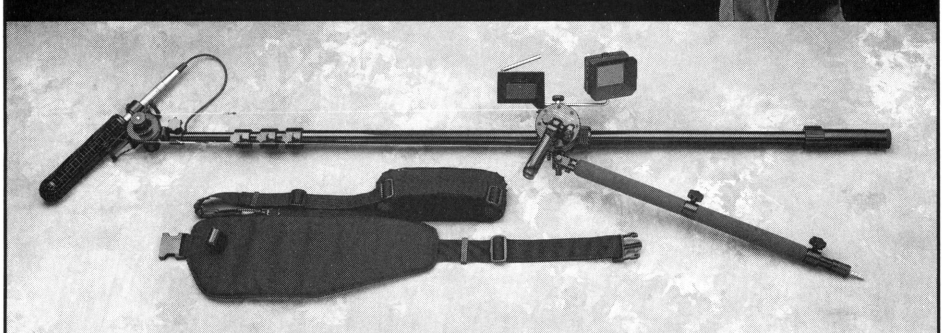

Photographs above show Cuemaster in direct mode. Rotational mode accessories, other accessories and case are not shown. Cuemaster is a registered name and is patent pending.

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William Marky CAS Production Mixer on set of "Jacks Place" (2 Emmy Awards for "Hill St. Blues.")

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a miniature set. The shoes were composited on top of the backgrounds, using Harry. The expressive quality of the shoes was achieved in part through the use of aluminum armature wire in the laces. In some cases, clay and wire was inserted into the body of the shoe, which was then manipulated into various shapes for animation. Effects animation on cel and interactive lighting enhanced the different scenes. Additionally, Marvin the Martian's demise was created using ground-up magnets, molded into the shape of the shoe and stop-motion animated as it collapsed.

For information: Colossal Pictures, 2800 Third St., San Francisco, CA 94107, (415) 550-8772, FAX (415) 824-0389.

Upcoming Events

June and July, 1994: Evening and weekend instruction in the film and electronic media, The American University School of Communication Film & Video Institute, Washington D.C. and Prague. For information: (202) 885-2073.

June 2-4, 1994: PhotoWest '94, Moscone Center, San Francisco. For information: (203) 852-0500, FAX (203) 838-3710.

June 6-8, 1994: Digital World '94, Los Angeles Convention Center. For information: (800) 488-2883.

June 6-12: The International Electronic Cinema Festival, Chiba-Montreux 1994, competition of HDTV programs and symposium on related events, displays and demos, Chiba, Japan. For information: Viacom International, Inc., (212) 258-6363, FAX (212) 258-6354.

June 8-19: 18th Atlanta Film and Video Festival. For information: (404) 352-4254 or 352-4225, FAX (404) 352-0653.

June 9-13: CINDY Interactive Video and Multimedia Festival, 35th Annual Awards, etc., at Showbiz Expo at L.A. Convention Center. For information: (619) 461-1600.

June 10-12: 20th Anniversary Salute to Troma Films, America Cinematheque at the Directors Guild Theater, Hollywood. For information: (213) 466-FILM.

June 11-13: Panels exploring key issues and trends in film, video and theater, sponsored by MPA, DGA, ASC, and other industry groups, Showbiz Expo

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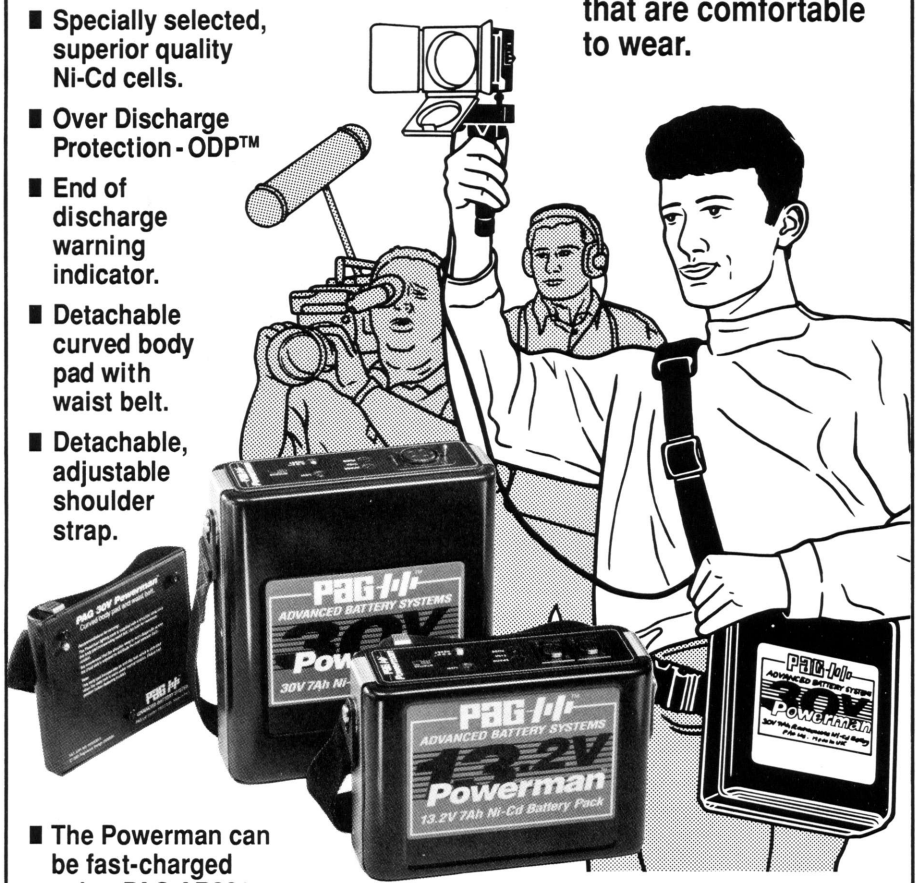

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June 14-16: Replitech International, Santa Clara, CA. For information: (914) 328-9157, FAX (914) 328-9093.

June 14-17: "CD-ROM Development Workshop: From Multimedia Publishing to Data Archival," an engineering short course at UCLA Extension. For information: (310) 825-1047, FAX (310) 206-2815.

June 15: Deadline for entries: 11th Annual Chicago International Children's Film Festival October 7-16, 1994. For information: (312) 281-9075

June 16-18: Art Teco '94, a multimedia developers summit on the technical aspects of interactive development, presented by Morph's Outpost on the Digital Frontier, to be held at Cyberlab 7, San Francisco. For information: Tim Bigoness, Morph's Outpost, (510) 238-4547.

June 18-23: World Congress on Biomedical Communications, "Global Images in Health and Science," for professionals in fields of scientific and medical illustration, photography, motion media, computer imaging and graphics. Orlando, Florida. For information: (410) 252-1700, FAX (410) 252-6316.

June 21-23: CimmeX '94, an exhibition, and Concurrent Engineering: Tools, Teams, and Best Practices, a conference, presented by the CAD Society, a division of the National Computer Graphics Association, Washington, D.C. For information: (703) 698-9600, ext. 340.

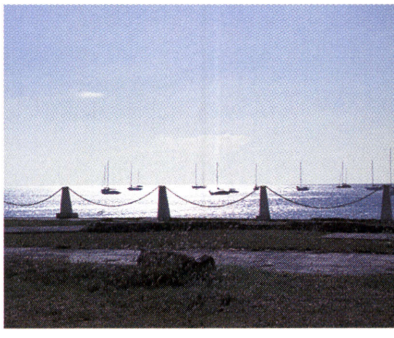
June 23-24 and 27-28 (as well as dates every month through end of year): Digital imaging workshops at Sinar Bron, Edison, NJ. For information: (800) 456-0203.

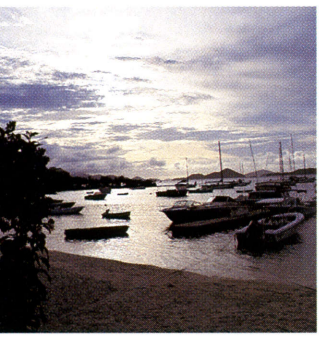
July 5-22: Cinema Studies program for high school teachers to aid in developing methods for incorporating film in curricula, NYU Tisch School of the Arts, NYC. For information: Mariellen Gallagher, (212) 998-6797.

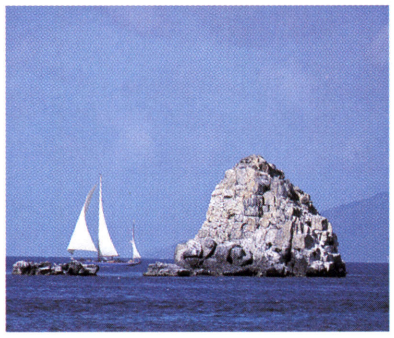
July 8-13: Professional Photographers of America Convention, Electronic Imaging Conference, and Trade Show, Denver. For information: (404) 522-8600.

July 11-15: Video Expo/Image World Chicago. For information: (800) 800-5474 or (914) 328-9157.

July 13-17: 7th Annual International Teleproduction Society (ITS) Forum and Exhibition, Washington, D.C. For information: (212) 877-5560.







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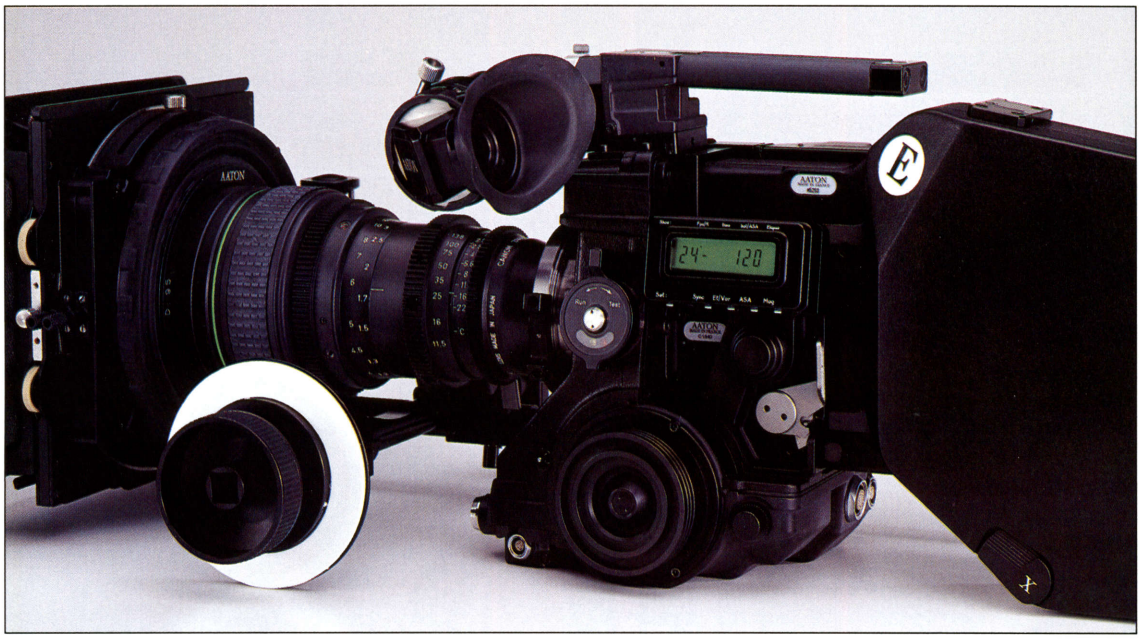

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Power Consumption	600 ma w/film	600 ma w/film	600 ma w/film
Noise Level	20 db -1 / +2	20 db -1 / +2	20 db -1 / +2
Image Stability	1/2000 of image	1/2000 of image	1/2000 of image
Hair-Free Gate	yes	yes	yes
Lateral Pressure Plate	yes	yes	yes
Co-planer Claw Design	yes	yes	yes
16 / Super 16 Switchable	yes	yes	yes
AatonCode In-Camera TimeCode	-	yes	yes
Viewing System	universal fiber optic	universal fiber optic	interchangeable G.G.
Aatonite Illuminated Viewing	-	-	yes
Speed Range	2-75 fps	2-75 fps	2-75 fps
Crystal Speeds	24 . 25 . 30	24 . 25 . 30	2-75 in .001 Increm
CCD Assist	yes**	yes	yes
Color CCD Assist w/Burn-in Timecode	yes**	yes	yes
Camera Mount	Aaton***	Aaton***	Universal - Aat. PL.PV
Mirror Shutter	180*	180*	multi-pos 144° 172.8° 180°
Accessory Inputs	Amph9.Lemo6	Amph9.Lemo6	Amph.Lemo6.Lemo8
Digital Photometer	-	yes	yes
Pre-End & End of Film Warning	-	yes	yes
LCD Display	-	yes	yes
Illuminated Display	-	-	yes
Battery Voltage Indicator	-	yes	yes
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Formats Seminar:
Experts Debate Pros and Cons

by David Heuring

Misunderstandings abound concerning the variety of formats used to photograph and display theatrical motion pictures. Which formats cost more? Which deliver a worthwhile boost in image quality? What about depth of field?

On January 29, the Technology Council of the Motion Picture-Television Industries attempted to give interested folks a chance to definitively answer these and other questions regarding formats. The Tech Council, in the person of "Dr. Formats" himself, ASC associate member Rob Hummel, conducted a day-long seminar focusing on the creative, financial and technical differences between the six most popular film formats for theatrical release. The seminar was held at the Samuel Goldwyn Theater at the Academy of Motion Picture Arts and Sciences.

The Technology Council is a nonprofit organization with 130 individual members committed to research initiatives involving technology, safety and environmental issues too large or complex for single companies. Deluxe Labs' indefatigable Bud Stone is currently serving as president of the organization.

Project leader Hummel and his team put together a painstaking investigation into image quality, and invited attendees to evaluate the tests in controlled surroundings. Identical scenes were photographed in six commonly used production and display formats, ranging from 65mm to Super 16. The images were also transferred to HDTV and displayed on monitors for close-up examination.

A wide variety of companies and organizations, including the ASC, co-sponsored the event. Lending their time and expertise were ASC members John Hora and Steven Poster, who photographed the tests under strictly controlled conditions. The idea was to compare the formats in terms of image quality and emotional impact, with all other factors (story quality, for example) equalized. The Tech Council team went to great lengths to ensure that each negative received the same exposure and equalized laboratory treatment.

Each scene was photographed in Super 16, Standard Academy 1.85, Super 1.85, anamorphic (CinemaScope, Panavision), Super 35 (Super Technoscope) and 65/70mm. During the presentation, each comparison was preceded by a graphic explanation of how the formats are photographed and the procedures used in each case to arrive at release print. This information, which is covered on pp. 13-28 of the Seventh Edition of the American Cinematographer Manual, was followed by A/B comparisons in the following order:

a. Academy 1.85 vs. Anamorphic
b. Academy 1.85 vs. 1.85/70mm
c. Anamorphic vs. Anamorphic/70mm
d. Anamorphic vs. 65/70mm
e. Super 35 vs. Super 35/70mm
f. Academy 1.85 vs. Super 16
g. Academy 1.85 vs. Super 1.85
h. Anamorphic vs. Super 35
i. Anamorphic vs. 65mm reduction to 35mm
j. Academy 1.85 vs. Super 35
k. Academy 1.85/70mm vs. Super 1.85/70mm
l. Anamorphic/70mm vs. Super 35/70mm
m. Anamorphic/70mm vs. 65mm/70mm

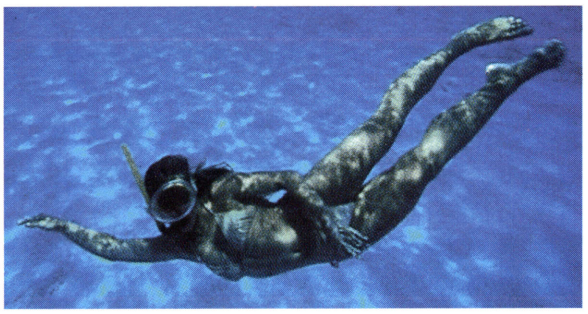
After the comparisons and a passionate but all-too-brief discussion period, cinematographer Vittorio Storaro, ASC, AIC shed light on the formats debate from a different, less technical angle. After listening to the renowned cinematographer's remarks (see below), attendees were treated to a ten-minute sneak preview of *Little Buddha* (see *AC* May '94), which Storaro photographed partially in 35mm anamorphic and partially in 65mm.

Remarks by Vittorio Storaro

"In Plato's myth of the cave, prisoners are kept in a cave facing the interior wall. Behind them, at the entrance of the cave, a fire is lit, and people with statues and flags are passing in front the fire. The prisoners' own shadows are projected on the interior wall of the cave; the prisoners, in looking at the moving shadows on that portion of the wall, are watching an image as a simulation of reality, not the reality itself.

"This myth is a symbol, a metaphor, of the cinema: audiences are used to seeing images in a specific and limited area of space. The journey of visual arts that humans have made through history, through all different styles of drawing, painting and photography, has always been determined by a specific area that allowed any visual artist to express himself, a size of canvas that determined all visual arts to be a specific form of expression, not a copy of reality.

"Since the work of the Lumière brothers 100 years ago, framing that space in a very spe-



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cific way allowed each filmmaker to conceive and to realize composition — a word almost forgotten in today's film industry.

"I think that any expressive art form, in different moments of history, had the opportunity to somehow lead all others; remember, for example, the importance of sculpture in ancient Greece, architecture during the Roman Empire, painting in the 15th Century, music in 18th Century, and literature in the 19th Century. Without question, photography, cinema and television have had a big influence and are leading all art forms in this century. But more and more, I think that today it's very difficult to define the limits between different media. Theater, cinema, television, literature, painting, etc., are mixing with each other more and more. They are becoming audiovisuals.

"Movies today, no matter how big or small, or how successful, [have] a very short life on the big screen, [and] a much longer life on an electronic screen. Today, all answer prints are made in these two different media; our work as cinematographers ends after having released one interpositive for theater distribution and one digital master for video distribution.

"Because these two different media have mainly two different aspect ratios, each one of us shares with directors, production designers, cinematographers, and camera operators the nightmare of compromising the composition of the image. We look into a viewfinder, a camera, or a monitor, and we always face at least two images of the same subject.

"As the cinema is a language of images, in changing the original composition of the cinematographic picture we are altering the linguistic expression, the style, and in the end, the film itself. It is like cutting a painting to fit the wall space in which it is to be displayed. I just finished the video transfer of *Little Buddha,* and although I was able to work with one of the greatest telecine operators I know of, Lou Levinson, in recording the letterbox and the full screen versions, we were, without any doubt, recording two different films.

"To the jungle of different numbers in today's cinema and television, the coming High Definition Video System will introduce another one: 1:1.79. For a while we will have three different visual proportions, three different compositions of the same movie.

"I don't know who decided on this new aspect ratio, which doesn't resolve any past, present or future problems of finding a common composition between different media. I don't know any directors or cinematographers who have been asked their opinion about the possible new area, or new composition for future audiovisuals.

"I believe in HDVS, in the creative and industrial potential of this technical event, and in the possibility that very soon, any small screen in any multiplex will be replaced with HDVS — [and] that any movie will be directly recorded in HDVS instead of 35mm negative. This is a process that we can slow down or speed up, but not stop.

"But I also believe that audiences all around the world will always need to get together into the large amniotic sac of a large film theater in order to follow with the collective unconscious of a large audience, on a large screen, any epic, spectacular, and big romance stories. This part of cinema, in my opinion, will need to be filmed in 70mm.

"If all of this to happen — that in the future audiovisuals will be recorded in these two different ways, HDVS or 70mm, depending on the need — then I think it is sensible to propose a new standard for both, a new aspect ratio that will fit future, present, and past needs of composition. Currently, 70mm is set on an aspect ratio of 1:2.21 and HDVS on 1:1.79. If we remove 0.2 from the 70mm and we add the same number on top of HDVS, we will have a perfect balance between the two: 1:2.

"This new area will allow us to compose any image without any concern for which medium it will be recorded in, or which screen it will be projected upon. In any case, it will end up on laserdisc HDVS in the same composition. Into this electronic screen will also fit most formats, ranging from films of the Silent Era, filmed in 1:1.33, to all panoramic systems — 1:1.66, 1:1.75, and 1:1.85. Only anamorphic and 65mm pictures will require slight modification.

"With this new proportion, we will respect not only all the co-authors who participate in the creation of images, but also the audience's right to see a picture as it was conceived. I do believe in this possibility; in *Little Buddha,* with director Bernardo Bertolucci, we made the decision to mark camera lenses for the composition of the image at 1:2. This is the aspect ratio with which I just recorded the letterbox version on digital master.

"But why epic films on 65mm negative?

"At the first public showing of a moving image by the Lumière brothers, the relation between the size of a film negative and the size of a screen was defined — a portion of canvas, where our dreams are (or will be) realized, that became standard for viewing films.

"It was only after the advent of electronic images, of television, that a need was felt to modify and extend that magical space to which we were accustomed, in order to involve the viewer more deeply in the spectacle. Too many systems were invented (CinemaScope, VistaVision, Cinerama, Todd-AO, Technirama, et cetera), and each one was so different from the others that they almost canceled one another out.

"However, in recent times, the 70mm print format seems to have become the standard for big screen. In my opin-

Let the magic begin.

Captured on EXR 5298 film at dusk, 7:00 p.m. (EST), with existing light outside, tungsten lighting inside, film speed of 500, camera speed of 48 fps, T-stop of T3.5.

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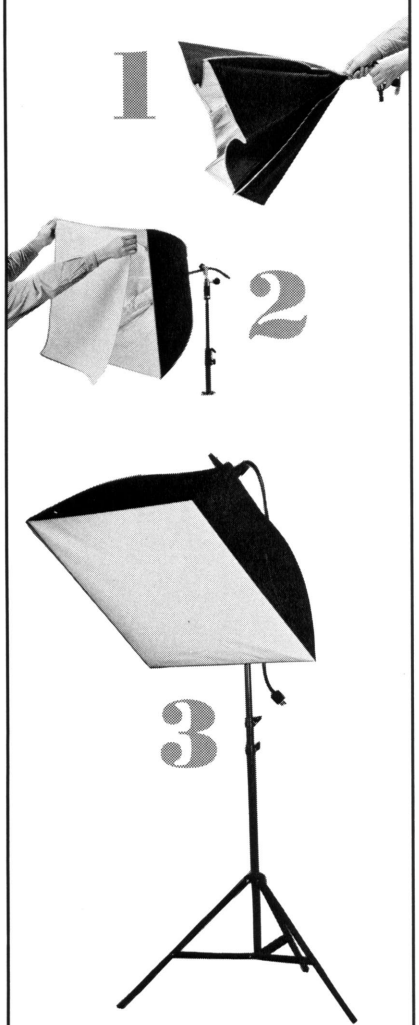

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ion, as we usually are trying to establish the right proportion in life, we should do the same in cinema, using the right size negative for the right size screen: 16mm for viewing an image on a small screen; 35mm for viewing an image on a normal screen; 65mm for viewing an image on a big screen.

"In this way, the right technology will be used to create the right image: we respect the moviegoer by showing them, without any mystification or false impression, a film on big screen created for a big screen.

"In today's film industry, unfortunately, almost all movies for big screen are shot on 35mm negative, most of them with anamorphic lenses, and blown up to a 70mm print.

"I remember my previous experiences with *Apocalypse Now* and *The Last Emperor*. In watching these two beautiful movies on a big screen, I somehow felt that the size of these great pictures was out of proportion compared to the size of the negative used for filming them. I always felt a lack of something in the quality of the image, not at the level of the movies.

"So I personally did everything I could to persuade Warren Beatty to shoot *Dick Tracy* in 65mm negative, as I was firmly convinced that the film deserved a big canvas.

"Many problems existed between the release of the film in cinema and on television. Due to the assumption that the number '65' means immediately increasing the budget, and because of the tight schedule, I succeeded in using the Arri 765 and Kodak 5296 65mm negative only for some tests.

"That test was very important in convincing myself that it is possible to use 65mm without altering the structure of the film crew. I did everything I could to persuade Bernardo Bertolucci and Jeremy Thomas to enter the world of 65mm, but Bernardo and Jeremy decided to remain in the world of CinemaScope, first for creative reasons, and secondly for financial reasons.

"During the shooting of the film, the structure of the story (a tale of a Tibetan Lama's search for his master's reincarnation, and of the legend of Buddha) gave me the idea of how to present the ancient part of the story compared to the modern one. So one more time, I proposed filming this specific section of the movie in 65mm.

"Bernardo liked the idea immediately. In fact, for a while we were looking at one particular style that could represent the perfect world in which the prince Siddartha was living: a 'gold cage' in which the father was keeping the young prince so that the son would never know the reality of life, the circle of life and death with its age, sickness, and death — an untrue world lacking the possibility for Siddartha to feel compassion for the humanity of the real world and to become a spiritual leader, as was predicted, and rule his kingdom.

"For a while, with Bernardo, we examined Eighth Century Indian miniature paintings with all their saturated colors, with all their perfect details, and we wondered how it was possible to achieve that kind of look. The 65mm seemed to us the right system to present visually this enchanted world to children's eyes, like a beautiful illustrated book.

"Jeremy Thomas was also enthusiastic about the idea, but told me immediately that the budget and the schedule of the film was made for shooting a normal movie, in anamorphic, and that he had limited chances of increasing the budget in order to achieve this new event.

"Various phone and fax calls to companies involved in this new film structure confirmed for me that I was able to count on the support of Arri, Kodak, and Technicolor, and I'll live to thank them for believing in me and this project.

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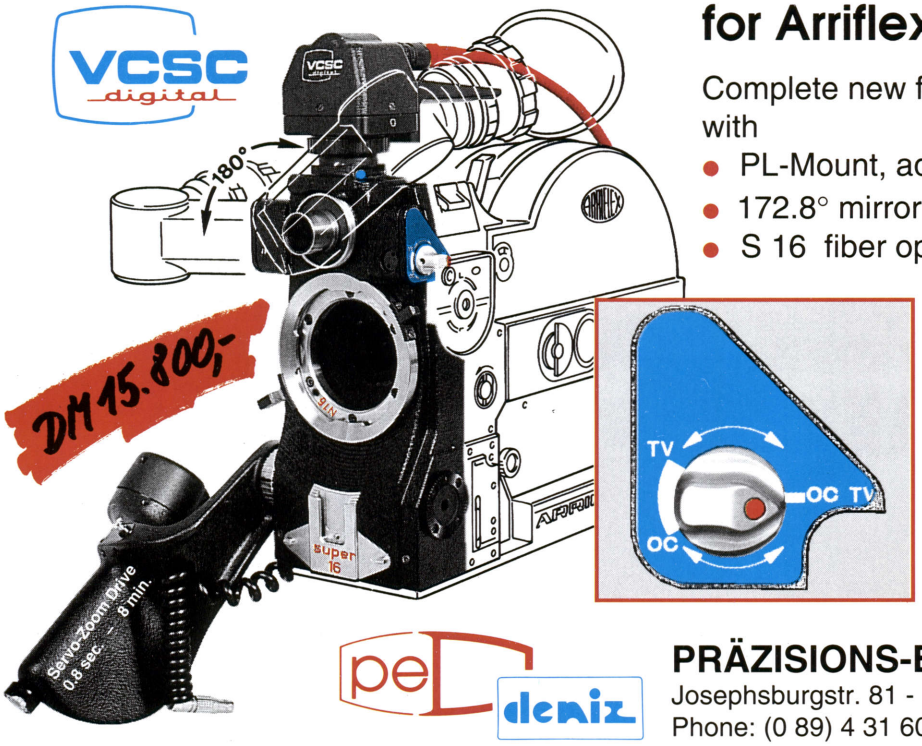

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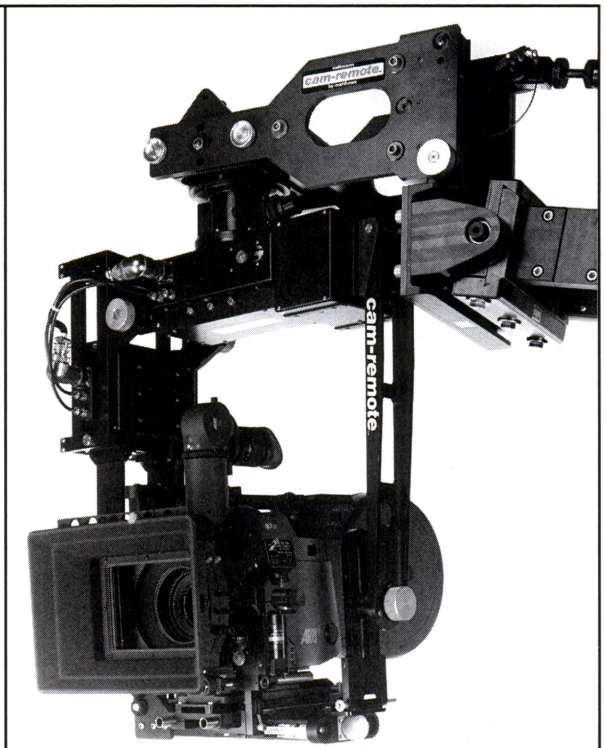

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"Shooting of the ancient part of the story was scheduled after one week, and I had limited time to prepare all the needs for that, including receiving cameras and film negatives in Katmandu (Nepal).

"Thanks to the effort of the production and the aforementioned companies, we received everything we needed for the next Saturday. The camera crew had only one Sunday to get familiar with the new cameras, new film negatives, and new technology in laboratories. Today, we don't need anything different on the set compared to the normal shooting in CinemaScope for filming on 65mm negative; the only different piece of equipment that I requested was the big brother of the Pee-Wee dolly, the Hybrid.

"We were actually challenging the idea that 65mm cinema inevitably means a big increase not only in direct cost but also in the time it takes to realize a film — that the immediate requirements of the number '65' are a bigger crew, tracks, drivers, lights, electricians and so forth. I was affirming that in a movie conceived for a big screen, it is possible to use 65mm without a big increase in budget; the difference in cost between 65mm and 35mm would be only in negative, camera, and negative development. I'm also sure that if the format were used on a larger scale, this difference would become minimal.

"Dailies in anamorphic 35mm will make possible all postproduction normally done in 35mm. From the direct interpositive on 65mm, the internegative 65 and the reduced internegative anamorphic 35mm will provide release prints in both 35 and 70mm.

"I remember it was a Monday morning in November 1992 when we began to film the first scene of the story of Buddha, while two new Arri 765s arrived on the set. I was, as usual, concentrating on balancing the light

"On the telephone to Clairmont, I can always get through to a decision-maker. Everything is taken care of then and there. Done. And I don't need to follow up–the equipment will be there," says Production Coordinator Devon Clark

"One morning on Baywatch, an actor crashed a Jeep into an ARRI 3 on sticks. The set called me; I called Irving. Can we get a replacement? Yes. Can we use a Clairmont driver? Yes. The new body with a new 10 to 1 was at our location ninety minutes later."

One phone call

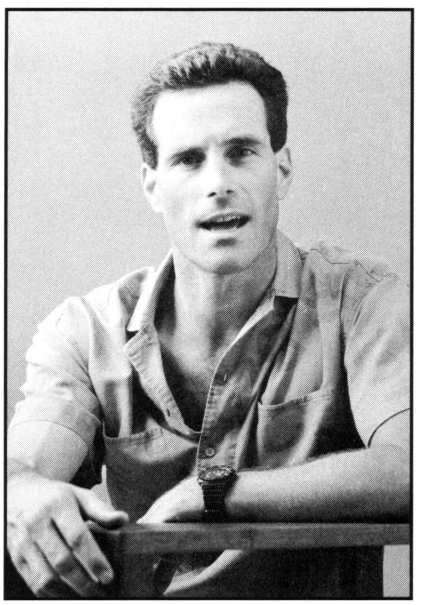
"That was an emergency, of course. But at some rental houses, it's hard to reach a decision-maker. That can slow things down, emergency or not. With Clairmont, it's one phone call to Irving or Jon; and a confirmation on the spot."

Following up

"During the run of any show," says Devon Clark, "My mind is occupied constantly with people and things that have to be followed up on. Confirming arrangements, ensuring work is done, checking the paperwork."

Switched

"On Baywatch, we're often working around water, salt spray and sand; so we rotate the cameras back to Clairmont regularly. And we keep adding extra gear, short-term, as needed. There's always equipment going back, new equipment going out for next day. We also switch cameras and lenses from 2nd Unit to 1st Unit, and back."



Devon Clark has been a Production Coordinator since 1986, working on Jaws–The Revenge, Baywatch, A Day In The Life, Northern Exposure, Airwolf and numerous commercials.

On top of it

"The packages get mixed up, so the paperwork can get confusing. But there's never a problem, because the Operations people at Clairmont stay on top of it. Every day at 2PM they call me. Almost like clockwork. I don't need to follow up, because *they do*."

"And they're *nice* about it. It's a pleasure to hear from them because of their efficiency *and* their friendly attitude. I'm always confident the records are straight on their end. There's never a doubt."

Surprises

"With some other places, you return everything at the wrap. Ten days later, you get a phone call–there's four thousand Dollars worth of stuff missing. That has never happened to me at Clairmont. One of my jobs is to try to save a buck for the production company. When those other places tell me the loss total or the damage total, I'm skeptical."

Integrity

"But when Alan Albert calls from Clairmont to tell me what the damage repair costs are, I know that's what they are," says Mr. Clark. "It's like buying film from Kodak–you don't question it."

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through the normal console dimmer, and like any other day of shooting, electricians set up the normal lighting plan, grips put cameras on a crane and on a dolly, the set decorator and the costume and make-up departments prepared themselves normally, camera operators started their own rehearsal with camera grips normally, the assistant director was giving instruction to extras normally, the director was giving final suggestions to leading actors normally, and, just like normal, Bernardo called out the magic word: Action.

"My heart stopped racing (as it had been doing over the previous two weeks) only at the moment when I saw the little red light of cameras doing their normal blinking.

"We looked at the beautiful scene in front of the 65mm cameras: while the moon was rising in the sky, Queen Maia was having a dream about a spiritual figure appearing to her like a little white elephant, which, in kissing her face, was blessing the birth of her coming child, Siddhartha. For the first time in my life I was feeling the right balance between the size of the scene, the size of the movie and the size of the film negative that was recording it.

"The rest of the shooting moved normally, on schedule and on budget.

"After this experience, I really think that for the movies that I am called to collaborate on that are conceived for a big screen, I'll do every possible thing to not shoot them in CinemaScope, but rather on 65mm negative.

"I remember Bertolucci telling me in a very low voice, 'In a world of images created mainly with television in view, the 65mm system is perhaps the right one to prolong the life of the word *cinema*.' I believe him to be right. I only hope that I can measure up to the 65mm system myself."

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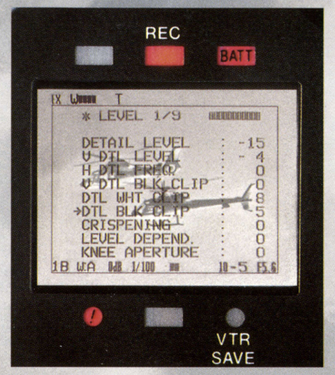

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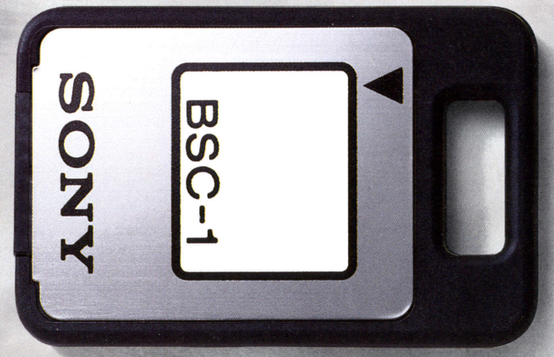

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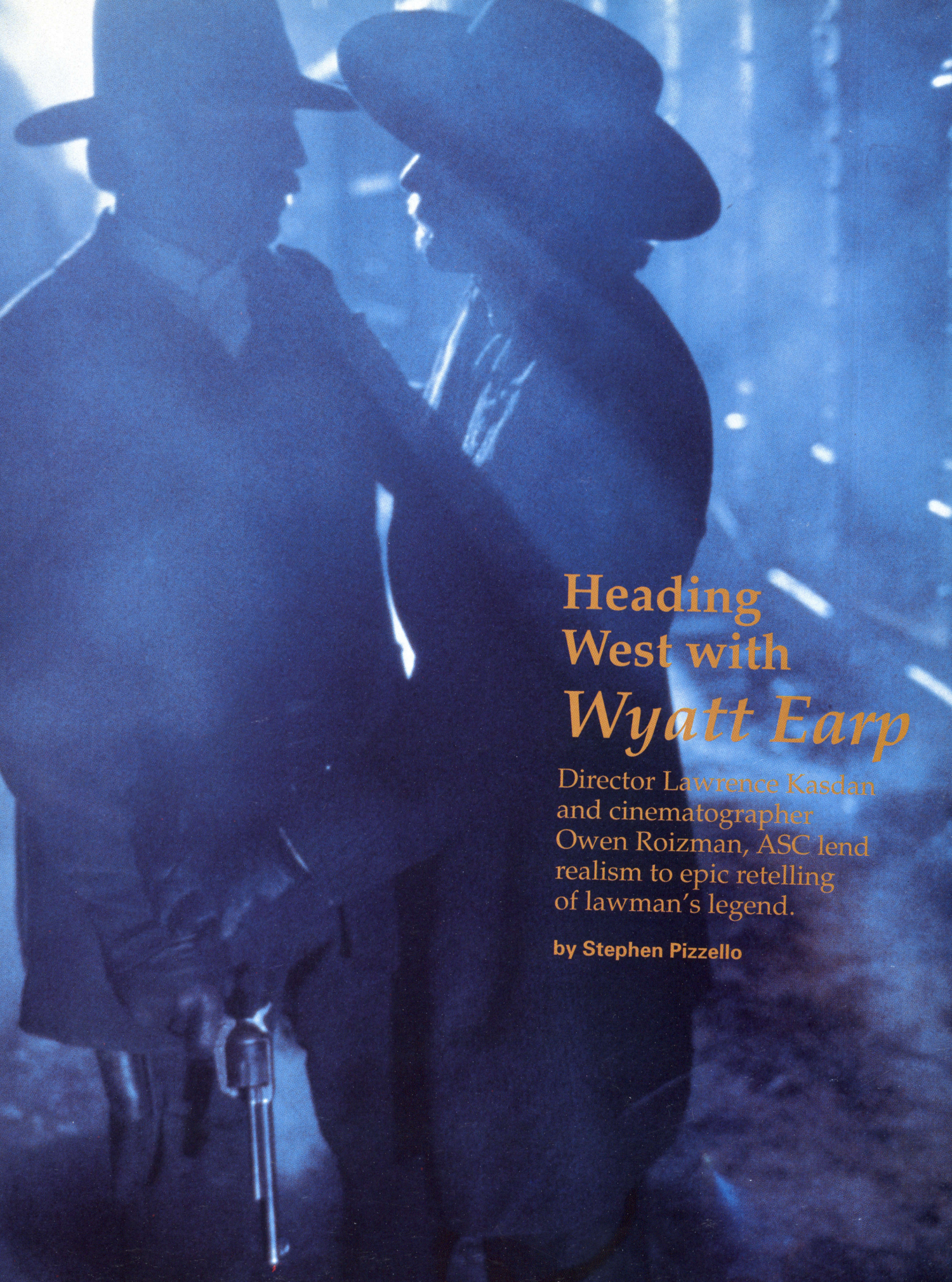
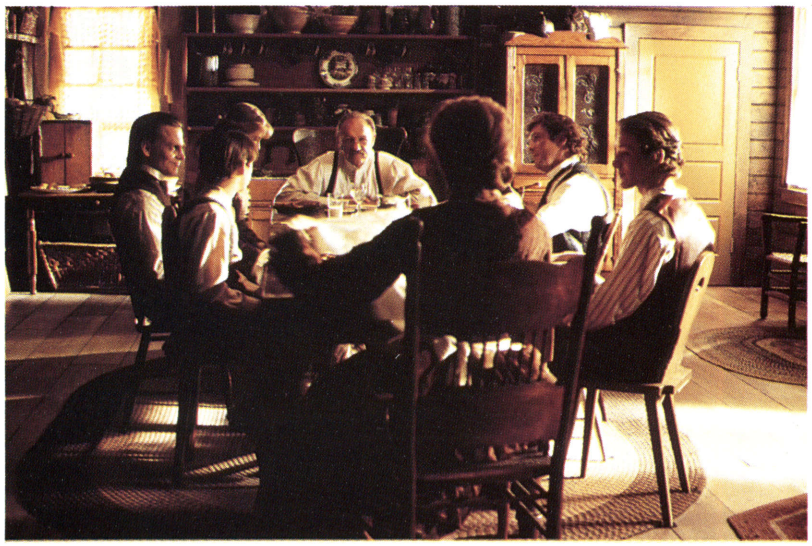


Heading West with *Wyatt Earp*

Director Lawrence Kasdan and cinematographer Owen Roizman, ASC lend realism to epic retelling of lawman's legend.

by Stephen Pizzello

Previous page: ***Roizman's original plan for the film's climactic shootout involved steam and backlighting, but rain forced him to devise an ingenious Plan B that incorporated reflections, half-light and other techniques.*** **This page, top:** ***Warm, homey source lighting enhances a family dinner headed by Nicholas Earp (Gene Hackman). Bottom: Roizman (far left) joins producer Jim Wilson (standing, in cap), star Kevin Costner and director Lawrence Kasdan (seated, in cap) to review a scene on the video monitor.***

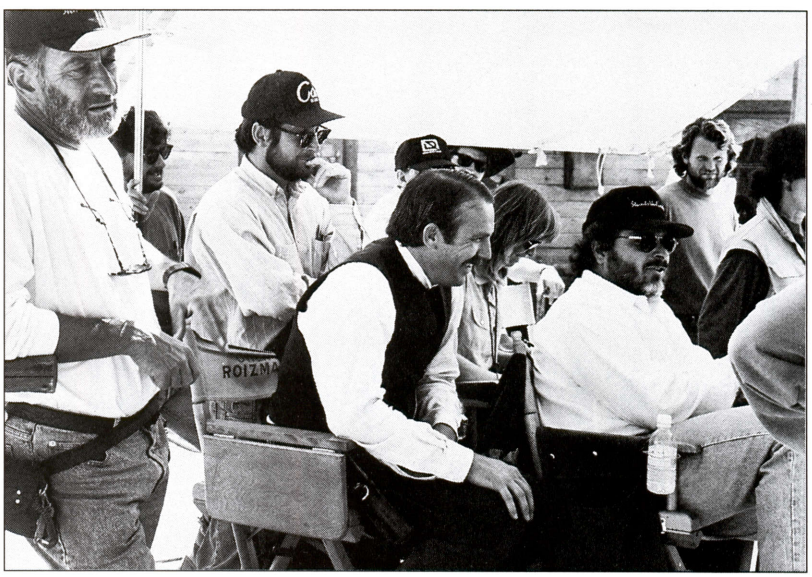


Photos by Ben Glass, courtesy of Warner Bros.

IT IS WELL PAST SUNDOWN, and a quiet calm prevails on the dimly lit streets of Tombstone, a Western town once plagued by lawlessness and the mercenary whims of gun-toting desperadoes. Since the arrival of a badge-for-hire named Wyatt Earp, Main Street has been made safe again. On this particular evening, however, the strapping deputy sheriff is headed to a local hotel, where Doc Holliday, a newcomer of notorious renown, is embroiled in a bitter boudoir feud with Big Nose Kate, a ladyfriend of equal infamy.

Striding into the hotel's lobby, Earp is directed toward the second floor by a group of jittery citizens. As he mounts the stairs, a gunshot rings out; his instincts kicking in, Earp grips the balustrade and bounds toward the trouble. Before he reaches the landing, however, a cry of "Cut!" pierces the air, stopping him in mid-stride.

In the moments that follow, a hubbub of activity disrupts the illusion of the Old West. The "hotel" is once again reduced to a frigid film set, made marginally more hospitable by an array of strategically placed space heaters. As the parka-clad crew attends to the secondary actors and props, director Lawrence Kasdan and his star, Kevin Costner, confer about the scene's blocking. Cinematographer Owen Roizman, ASC, chomping on a cigar that protrudes from a beard cultivated for extra warmth, takes advantage of the break to adjust a group of soft lights that hang over the hotel's entryway. A short time later, Costner is once again clambering up the staircase.



Budgeted at $65 million and slated to run over three hours in length, Wyatt Earp is Warner Bros.' best bid for a summer blockbuster. Shot mainly in Santa Fe, New Mexico, the film covers most of Earp's life, from his teen years to late middle-age. Contrary to most previous screen treatments of the legendary lawman, the story paints a warts-and-all portrait of a conflicted man whose life included bouts of alcoholism and criminality. In addition to Costner, the cast features Dennis Quaid (as Doc Holliday), Isabella Rossellini (Big Nose Kate), Gene Hackman (as Wyatt's father), Mark Harmon, Michael Madsen, JoBeth Williams, Catherine O'Hara, Adam Baldwin, Betty Buckley, Jeff Fahey, Tom Sizemore and Mare Winningham.

As filming of the hotel sequence wraps, Roizman concedes that the film's grueling schedule and the recent November weather conditions in Santa Fe (well below zero with wind chill factored in) have made the last weeks of shooting an arduous approach to the finish line. "Most people would think that a 113-day schedule was pretty liberal, but every day was packed," he maintains. "Before the picture started, I went over the schedule with the assistant director, Steve Dunn, and we just laughed at a couple of the days, because we knew they were impossible to make. But as we went along, we found out that we were actually doing it."

One of the reasons the filmmakers were able to hew to deadlines was their determina-

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Directed by Lawrence Kasdan
Produced by Lawrence Kasdan, Jim Wilson, and Kevin Costner
Director of photography, Owen Roizman, ASC

The camera crew captures the picturesque rigors of the film's railroad-building sequence.

tion to shoot in any and all weather conditions. Roizman reports that the production went just eight days over schedule, losing only half a day to the elements when a torrential downpour hit during a lunch hour. The cinematographer adds that his director issued an additional time-saving edict before shooting began. "Larry, the editor (Carol Littleton), the script supervisor (Anne Rapp) and I made a pact at the beginning of the film that we would not worry about matching," he says. "Larry's experience was that in all of the great films he'd ever loved, he could see that a lot of stuff didn't match, but it didn't take away from his enjoyment. If we hadn't done it that way, we never would have stayed on schedule. So occasionally we'd find ourselves shooting a scene in the middle of the day, with bright overhead sunlight, and finishing when the sun was going down — sometimes when it was already down. A couple of times, I even found myself shooting night-for-day. It would be pitch black out, and I'd be lighting shots that we had done during the afternoon, just so we could finish the day's work. Other cinematographers will notice that some things don't match, but I don't think the general audience will ever know the difference. It was something I just had to live with."

Wyatt Earp marks the third collaboration between Roizman and Kasdan, following *I Love You to Death* and *Grand Canyon*. Roizman has been nominated for four Academy Awards (*The French Connection, The Exorcist, Network* and *Tootsie*), and has also overseen principal photography on such films as *The Heartbreak Kid, Play It Again Sam, The Taking of Pelham 123, Three Days of the Condor, The Return of a Man Called Horse, Straight Time, Absence of Malice* and *The Addams Family*.

Given this distinguished list of credits, one would assume that Roizman has always harbored a yen for filmmaking. Not so; the Brooklyn-born cinematographer insists that his first love was baseball. "My father (Sol Roizman) was a cinematographer, my sister was a script supervisor, and my uncle was an editor," he says. "But all through high school and college, I was a baseball player — that was my dream."

A promising pitcher, Roizman's shot at hardball glory ended when he developed a sore arm. After graduating from Pennsylvania's Gettysburg College with a B.A. in Math and Physics, he considered becoming a physicist, mathematician or engineer, but instead decided to try working as an assistant cameraman. He first trained with New York-based cameraman Akos Farkos ("a Hungarian cameraman from the old school") and then moved on to work closely with Gerald Hirschfeld, ASC. His association with Hirschfeld led to commercial work and the low-budget feature *Stop* (1969). Shortly thereafter, he shot the classic police drama *The French Connection*, which established his reputation overnight.

"When *The French Connection* came out, everybody labeled me as this gritty New York street photographer," he recounts. "It wasn't until years

Above: ***The Earps stride toward their legendary appointment at the O.K. Corral. Roizman and his crew covered the sequence from "every possible angle."*** **Right:** ***Big Nose Kate (Isabella Rossellini) aims her six-shooter at paramour Doc Holliday (Dennis Quaid) during one of their frequent lovers' spats.***

later, when I'd done several other very different projects, that people realized I could do other things. I know I've gotten slicker, but I still have the same basic philosophy: I like realism, and I like light sources. I don't want it to look like a documentary, but I don't go too far in the other direction either."

He adhered to those principles on *Wyatt Earp*, hoping to stake out new visual terrain in a genre that has been covered from every conceivable angle in an endless array of styles. Seeking to make a unique contribution to cowboy cinema, Roizman screened every Western he could find on laserdisc or tape. He also delved deeply into the history books, sifting through reams of information about Earp himself and the period in which he'd lived. "I wanted to familiarize myself with what it was like so I could start to formulate my own pictures of what it *might* have looked like," he states. "I didn't necessarily want to copy anything from the films I watched; if anything, I wanted to go against what had been done and make this different than any Western ever shot. I don't know if I succeeded, but that was my goal. Of course, my job was made that much easier by the people I worked with. When you have the kind of palette I was given by [production designer] Ida Random (see sidebar), [set dresser] Cheryl Carasik and [costume designer] Colleen Atwood, it makes the job that much easier and more enjoyable."

As he studied the work of others, Roizman began to feel that his favored approach — realism — would ironically be something of a departure. "Strangely enough, almost every Western I watched was lit very conventionally and in a very old-fashioned way," he says. "None of them really captured what I felt it probably looked like in those days. In particular, most of the older films employed 'movie lighting.' What I tried to do, and what Larry wanted also, was to make our picture look like it would have looked if you had lived back then. Sure, we wanted it to be pretty, and we tried to stylize it in many ways, but we didn't want it to be phony. In those days, they had candles and kerosene lamps; there were no incandescent bulbs. While lighting indoors, I always tried to make it feel as authentic as possible. I had to cheat a bit many times, and brighten things up more than I wanted to, just so we could see people under their hats. But in general, I stayed true to my sources."

Roizman also kept filtration to a minimum. He points out that one of the most picturesque and authentic-looking Westerns, Robert Altman's *McCabe and Mrs. Miller* (shot by Vilmos Zsigmond, ASC), still had a heavily diffused look. "I used some filtration, but it's so subtle I don't think you'll notice it," he says. "I had a plan for the way the film should look in general. I thought the interiors should be very warm, with lighting from the candles and

kerosene lamps, and very dark when possible. I felt that the day exteriors should be bright, dusty, smoky and overexposed. I wanted the evenings — especially sunsets — to have a very rich, natural quality, with beautiful skies. On the other hand, I let the daytime skies blow out. And at night, it was just dark. We had some lamps working, but the only other source I had was the moonlight. So I always tried to play a little bit of blue moonlight someplace. It's a tricky thing to do, because if you overdo the blue it becomes very obtrusive. I thought it helped to counteract the warmth, though; if you have too much warmth all the time, it starts to look muddy."

If a scene was too contrasty, the cinematographer says he would "knock it down" with Tiffen's UltraCons and SoftCons. His only other indulgence was to occasionally add a black ProMist to the lens.

Roizman was also careful in his choice of film stocks. Rather than using Kodak's richer 5245 or 5248 stocks for day exteriors, he opted for the new 5293. "I felt that it had a little less color saturation, and it wasn't as contrasty. It's a subtle difference, but I felt that it desaturated just enough for me during the day scenes, so I could capture that 'older' feeling. The one thing we didn't want to do was to get into any sepia-type stuff; I just printed slightly on the warm side. We did try to get a more orangey look for the night exteriors, because I felt that's the way it would have looked."

When shooting interiors and night exteriors, Roizman went with Eastman's higher-speed 5296. "I found that stock to be extraordinary, because I also used it when the light went down at the end of the day," he says. "I often threw it on, sometimes without an 85 [filter,] to continue a scene we'd started earlier. It's a terrific-looking film at that time of the day. I didn't want to use it in the middle of the day, because I didn't think it would match exactly right, but I gladly would use it at the beginning or the end of the day, when the light was so low that you could hardly see. That film sees in the dark, and I got some fantastic results with it. We shot some scenes when there was just no light left at all. I have a digital meter, and the meter was telling me, 'It's time to go home.' The film often allowed us to do another take for performance, and when we saw those takes in the screening room it was just amazing how much light and detail there was. It perfectly matched what we'd done earlier."

Roizman took full advantage of the scenic possibilities offered by this bucolic wedding sequence.

On more than one occasion, however, shot-to-shot matching was made more difficult by the fact that the crew often covered scenes with multiple cameras. This strategy is frequently employed on action-heavy adventure yarns, but Roizman points out that *Wyatt Earp,* despite the conventions of its genre and the inevitable inclusion of the bullet-fest at the O.K. Corral, is a more story- and character-driven picture. According to the cinematographer, the filmmakers opted to use multiple cameras primarily to save time. He notes, however, that the benefits to the schedule were offset by some difficult aesthetic considerations. "In order to accommodate the multiple cameras, I couldn't be as careful with some of the lighting as I wanted to be," he admits. "I occasionally would have to illuminate for a wide shot and a close-up at the same time. Sometimes we even cross-shot different scenes; the cameras would be looking almost back at each other, which is a nightmare for lighting. To counter that, I tried to get an overall look so I could shoot in almost any direction and still have the same feeling."

The multiple cameras also caused some problems during exterior scenes, which frequently required the film's special effects crew to try to control the dust effects Roizman added for atmosphere. "There's a danger to that approach, of course, and controlling dust in an area like Santa Fe is even more difficult because the weather is so turbulent; it changes every few minutes," he relates. "Because of the natural dust, we had water trucks come through to wet the streets down so we could work. At other times, we had to make our own dust. We had scenes where we

put dust in, and it was just right, but all of a sudden the wind would come up and blow it out or change the direction. Thank God I had Bert Dalton and his special-effects gang; those guys were great at controlling the dust. They used fans and little hand-held machines, but to keep it looking consistent was still very difficult. The same thing went for smoke; in those days, people were always burning things for heat, and cooking on little stoves outside. I had to try to remember from shot to shot what was happening. It would have been a lot easier with one camera; working with two cameras from different angles made it twice as hard. We did the best we could, and all we can hope is that it cuts together."

The epic sweep of the story was enhanced by the use of the wide-screen anamorphic format. The A and B units (consisting of A cameraman Bill Roe; B cameraman Ian Fox; A camera first assistant Alan Disler; B camera assistants Jeffrey Gershman and Tony Rivetti; second assistants Mike Raspa and Eric Roizman; and loader Mike Martinez) worked with Panavision Platinum and Gold cameras, respectively; Roizman's lenses of choice were Primo primes and Cooke's 10:1 and 5:1 zooms. He reports that he tailored his photography to the usual characteristics associated with anamorphic, especially the format's reputation for a decreased depth of field. "We always had enough depth on the people, and as far as the background was concerned, I didn't care," Roizman explains. "It never seemed to bother me if things were out of focus in the background, and I never felt that they were that far out, because we didn't do that many close-ups in the picture. Larry and I decided, especially in light of our research, that in the biggest-feeling films we'd ever seen, the close-ups were never that close, and were used judiciously to heighten their impact. For a general close-up, we never got that close, although we still called it a 'close-up.' It may not work as well on a television set, but on the large screen that approach gives everything a bigger feeling."

This strategy of restraint also aided Roizman in his attempts to "age" Kevin Costner photographically, by allowing him to keep the camera back a bit. Costner himself goes through three transitions, although there are four overall (Ian Bohen plays the teenaged Wyatt). "The first time you see Kevin, he's supposed to be 21 years old, and let's face it, as good as he looks, it's a conceit for us to think he looks 21," Roizman says with a wry smile, risking the wrath of his star and fellow filmmaker. "However, Kevin did a great job in the acting, and I tried to light so you wouldn't see many wrinkles in his face. I tried to get fill light into his face and under his eyes to light out the few wrinkles there were and make his skin look even smoother. I approached it the way I approach lighting for women. With women, it depends on the shape of the face. If they have a rounder face, I might half-light them to make their face look narrower; if they have a thin face, I might front-light to make the face look a little broader.

"There are several women in this picture, but at the outset there were only two whom I really felt I had to flatter — Wyatt's first wife and second wife. The other women were supposed to be whores or plain Janes who weren't supposed to look too good. The toughest one to do that with was Isabella [Rossellini.] Her character, Big Nose Kate, is supposed to be a notorious prostitute and a bitch on wheels, and she played it really tough. Larry and I agreed we shouldn't make her look glamorous. I took the same approach with the other women. They always seemed happy at dailies, though, so it worked out O.K."

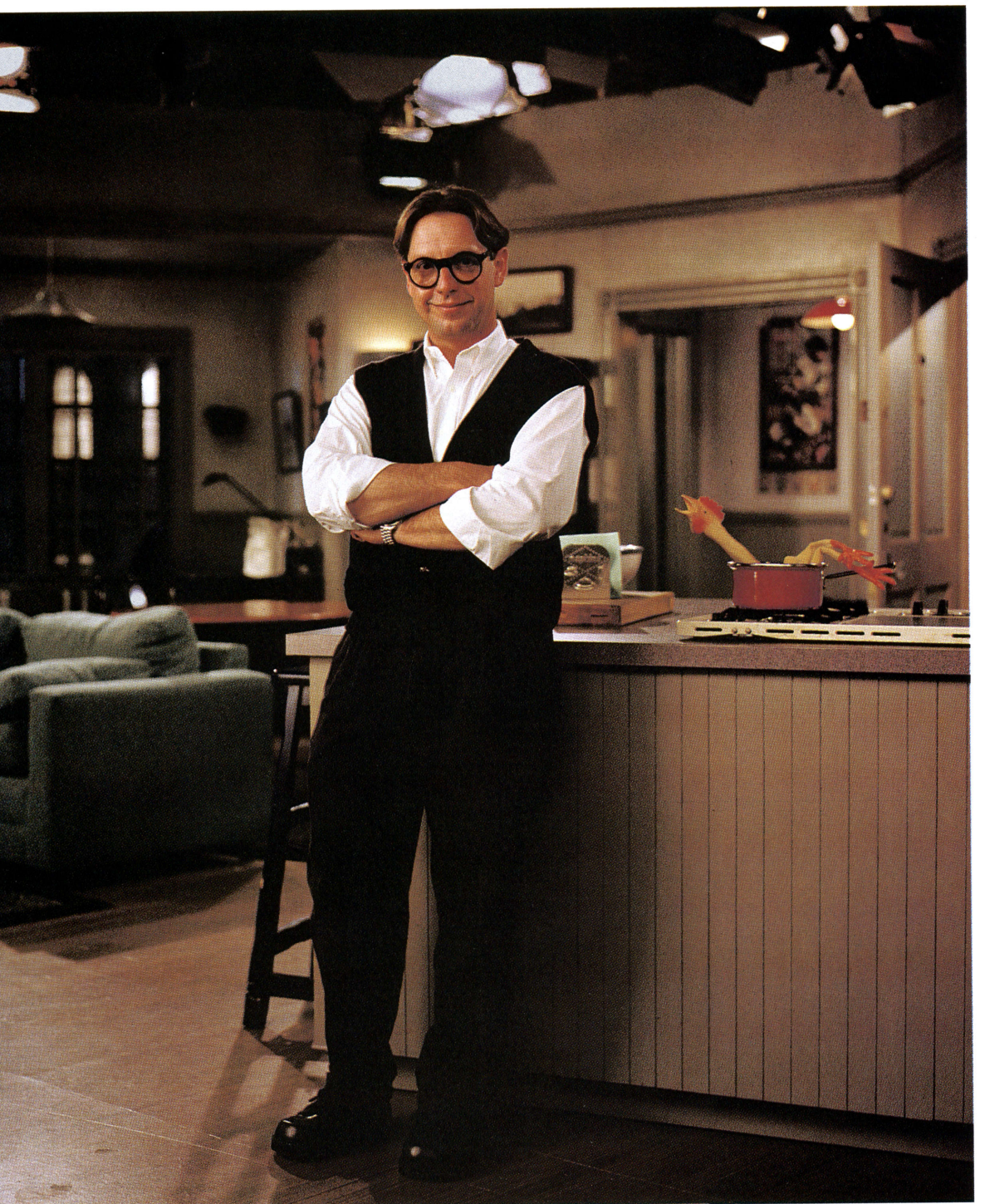
Roizman took a rougher approach to Costner during the portion of the film in which Earp becomes an alcoholic trouble-maker. "At that point, I let a lot of things go," he says. "I also tried to shoot him from higher angles when he was down in his doldrums. Later, after he's recovered, he puts a moustache on, and has more character in his face. During that section the film, I always wanted him to look strong, so I shot him a lot from low angles. Kevin is a big guy, and he's pretty dynamic onscreen, so I didn't have to do a lot to help him out. But I tried to add whatever subtleties I could."

The cinematographer resisted the urge to exaggerate the gaunt, weatherbeaten look of Doc Holliday, who suffered from tuberculosis. Actor Dennis Quaid donned makeup and reportedly lost 40 pounds for the role, and Roizman felt that additional photographic enhancements were unnecessary. "I didn't do anything to accentuate Holliday's illness or make him look especially bad. I just tried to make him look interesting, to give him a quality of light that always lent his face some character. Dennis even came over to me at the end of the picture and told me, 'I think your lighting enhanced the performances.' It was a nice compliment."

In his desire to fully exploit the anamorphic frame, Roizman shied away from his usual proclivity for long lenses. "Basically, we were on wider lenses, so the background was never that soft even at 2.8," he says. "On the exteriors, I was working just the opposite of what I might normally do, which is to open up to about 5.6, or 8, to use the best part of the lens. I found myself shooting mostly at 16 outside. I never would stop down past 16, even if the light said 32; I'd just overexpose it two stops."

While the cinematographer maintains that the picture offered more than its share of technical brain-twisters, several scenes proved to be especially rigorous. Roizman says that the camera was constantly on the move, and cites a nighttime Steadicam sequence as being one

there's nothing funny about a flat sitcom.



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Western Architecture 101: A Primer on Production Design

On an epic project such as *Wyatt Earp*, the design and construction of sets is a crucial consideration, especially in regard to scheduling. Oscar-nominated production designer Ida Random *(Rain Man)*, who had previously worked with Lawrence Kasdan on *The Big Chill* and the director's 1985 Western *Silverado*, collaborated closely with Owen Roizman to ensure that *Wyatt Earp* exploited every corner of its anamorphic frame.

Comparing this project to *Silverado*, Random maintains that *Earp*, despite its more expansive canvas, was actually the easier job. "*Wyatt Earp* was about three times as big, but on *Silverado* we really felt overwhelmed because we were new to Westerns," she says. "When this project was starting up, there were a lot of other Westerns in production, but one of the areas that was available was ironically the one we knew best — the same place we'd done *Silverado*. In that part of Santa Fe, we could use the original main drag we'd built for that film, as well as J.W.'s Ranch, which is another Western town close by. The *Silverado* set was in pretty bad shape when we got back there, but we had a good shell to work from."

During *AC*'s visit, the dusty streets of Tombstone did indeed offer everything you'd expect to see in a respectable Western town: a bank, a millinery, a haberdashery, hotels, saloons, a jail, a local newspaper (the Tombstone *Epitaph*), general stores and, of course, a corral.

Working with construction crews that often included more than 150 carpenters, Random turned the production's two main sites into seven different towns. "Set dresser Cheryl Carasik and I tried to give each town its own look," Random says. "In Tombstone, we stuck to very rich, burnished colors; we kept Wichita, which was a cattle town, very sandy-colored. We tried to give each town a different color scheme, because if we'd just used browns and tans and greens — which were pretty much the pigments they had to work with in the West — all of the sets would have looked exactly the same."

As the A camera unit shot at one spot, Random's team would be busy transforming the look of the other so it would be ready in time for the switch. Through careful scheduling, the production designer always managed to stay one step ahead. "We had to rebuild a lot of the existing structures," she recounts. "At the beginning of the project, it took Greg Callas and his construction crew about six weeks to make Tombstone structurally safe, because the main drag was a big wind tunnel. Then we transformed Tombstone's upper street into Dodge, which was an amazing feat. We had about six cranes out there, and about two weeks to do it all. That was probably our biggest changeover, because Tombstone was supposed to be more one-story, with porches, while Dodge was double-story, with no porches."

Random paid particular attention to interiors so that Roizman would never find "empty spots" in his compositions. "Because we were shooting in anamorphic, which is pretty ruthless in exposing the sets, I gave special attention to things like window mouldings, door mouldings and other details. Sometimes Owen would make a minor adjustment, like lowering the wall sconces, and to the eye it would look really off. But in the camera, it looked perfect. Sometimes, as a production designer, you labor over a set and fix the colors, only to see everything change — and not always for the better — once it's lit and shot. But Owen was very accessible, and as a result the sets look great on the screen." — SP

of the trickiest lighting setups of his career.

The scene in question begins in a local jail cell, where a prisoner is peering out of his window; on the streets beyond the bars, flickering lights indicate the approach of a lynch mob. The prisoner shouts for Earp, who's on guard duty, to save him. The camera glides from the jail cell to Earp, who straps on his gun and heads outside to confront the mob. As the crowd arrives at the jailhouse steps, the camera circles behind the angry citizens to face Wyatt — an arc of roughly 270 degrees.

To achieve this sweeping move, Roizman invoked a bit of old-fashioned ingenuity. "I used a lot of overhead light, and hid some fixtures behind windows," he reveals. "We also had a firebar on pipes off to the side to augment the torches when the mob got close at the end. The torches basically lit the people, but the street had to be lit in such a way that it didn't overpower the torches. I had to work at a stop that allowed me to get all of this light in and have it balance. I shot it all at 2.8. I'd been working at 2.8 for most of the picture, and I found that to balance against the little practicals we were using — to simulate candles, and so forth — 2.8 worked the best for me. During this particular sequence, I thought about stopping down to 2.3 or 2, but I didn't because I wanted the lens to resolve a little better. Rusty Geller was the Steadicam operator, and he did a terrific job on a very tough shot."

As for the O.K. Corral sequence, Roizman is able to sum up his approach in one word: coverage. Kasdan wanted to recreate the gunfight as accurately as possible, right down to its actual duration (20 to 30 seconds) and location (an alley beside Fly's Photography, which was in front of the corral itself). "It took us about five days to shoot the sequence," Roizman says. "We spent most of our time on the buildup, as the Earps walk toward the corral. We did a *lot* of

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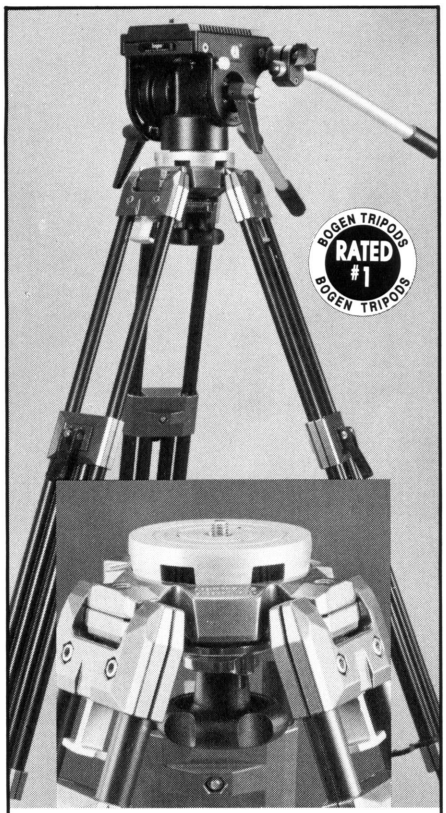

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coverage — shooting from up high on rooftops, from half a block away over a woman's shoulder, from behind the Earps, in individual close-ups and close-ups of the guns and faces, and with a Steadicam. We used smoke and dust the whole time, and the light changed dramatically each day from the beginning of shooting till the end; it was really difficult to match things, but Larry's theory was that each shot would be so quick you'd never see the difference. We were shooting with two cameras, sometimes three, plus the Steadicam. The master shot took 20 to 30 seconds, so it's exactly accurate."

While shooting the film's climax, set at a train station in Chama, New Mexico, Roizman found himself changing his technique to suit Mother Nature — and being pleasantly surprised by the results. Bent on avenging the murder of his younger brother Morgan, who has been killed by the surviving baddies from the corral shootout, Earp hops aboard the train carrying the coffin, accompanied by his friend Doc Holliday. When the locomotive arrives at the train station, Earp and Holliday engage in a deadly game of cat-and-mouse with Morgan's killers, who are lying in wait for them.

"There's a big buildup from inside the train as it's pulling in," Roizman elaborates. "When Wyatt arrives at the station, we played the scene with a lot of steam from the trains. We created a lot of silhouettes, lighting up the steam from behind and having the actors walk through the white areas, adding little flashes of light to show a bit of their faces. I played the steam very bluish to make it a bit more ominous-looking as the guys are looking under the trains and hunting for each other."

At a high point in the sequence, Wyatt shoots a man between two trains, one of which is moving. To stage the shot, the moving train had to be backed up and restarted repeatedly. "Executing that sequence was very dangerous, because the trains were close together, it was cold, and there was a lot of steam and soot," Roizman notes.

After three nights of shooting, the cinematographer's job was made tougher when it began to rain. "It rained for about half the night on the fourth night, but Larry didn't want to stop shooting," he says. "He said to me, 'Find a way to do it so we don't see the rain.' So I had to change my whole lighting style. On the last night of the sequence, it poured steadily all night long, but the production company still didn't want to stop. Instead of working with backlight, I decided to use reflections, silhouettes in reflections, half-lights and tricks like that. This made things especially tough for my gaffer, Ian Kincaid, who had to reroute a lot of the equipment, and my key grip, Tim Ryan, who had to protect everything from the rain. But it worked out great; the sequence might not have been as dynamic if I'd done all of it the way I'd originally intended."

Reflecting upon his deep involvement in the project, Roizman says that he was happy to have the chance to learn more about the Old West and Earp himself. "Most stories about Wyatt Earp — including *My Darling Clementine*, *Gunfight at the O.K. Corral* and *The Hour of the Gun* — focus on the gunfight, with a fictional orientation that makes Wyatt into a big hero," he points out. "Earp was a legend, but there's a lot of controversy. Many of the history books portray him as a very bad guy, claiming that he and his brothers were criminals and that the gunfight wasn't a fair fight. They were actually arrested after the gunfight and tried, but were freed.

"In our film, there's a scene at the end that poses a question about how much of the story was truth and how much was fiction. It's left open. In terms of the story, this is probably going to be a very dark picture."

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Master cinematographer Giuseppe Rotunno, ASC lends his mystical touch to Mike Nichols' hair-raising social satire.

by Ron Magid

His very name conjures up images so beautiful the mind reels: Death opening her arms to welcome a dying choreographer as whiteness engulfs them (*All That Jazz*); an aging Casanova amidst a dozen descending, twirling chandeliers whose candles are snuffed out one by one (*Casanova*); the dizzying frenzy of a ride on a sexual rollercoaster (*City of Women*); an ecstatic waltz betwixt Venus and Baron Munchausen as they float through the air (*The Adventures of Baron Munchhausen*). These are but a precious few of the creations of the remarkable Giuseppe Rotunno, ASC, whose pictures have graced films as diverse as *Satyricon*, *The Leopard*, *The Bible* and now, *Wolf*, directed by the likes of Fellini, Visconti, Huston and Nichols. When asked how he crafted his trademark blend of realistic yet mystical imagery for some of the most beautiful films ever shot, he replies in measured, heavily accented English, "I try my best." The Italian maestro has followed this deceptively simple adage to the height of his profession and the acclaim of the world. Among numerous honors, he has won a British Academy Award (for *All That Jazz*) and Italy's Nastro d'Argento eight times.

Speaking via telephone from his home in Italy, Rotunno eagerly discusses his latest project. *Wolf* tells the story of Will Randall (Jack Nicholson), a staid, conservative book editor at a Manhattan publishing house. The new owner of the firm, a ruthless businessman named Alden (Christopher Plummer), wants to replace the more mature Will with his overly ambitious young assistant, Stewart Swinton (James Spader). But before you can say *fait accompli*, Will is bitten by a wolf and begins a radical metamorphosis that unleashes his killer business instincts. Will not only looks and sounds better,

Photos by Francois Duhamel and Andy Schwartz, courtesy of Columbia Pictures

but his libido is aroused for the first time in years as he sets his sights on Alden's daughter Laura (Michelle Pfeiffer). There's just one catch: when the full moon rises, Will gets a bit hirsute and runs around on all fours howling at the moon.

To say the least, the film is a departure for director Mike Nichols (whose credits include the classics *Who's Afraid of Virginia Woolf?* and *The Graduate*), but less so for Rotunno, who in many ways was the perfect cinematographer for *Wolf*. Rotunno has the uncanny ability to make even the most outlandish imagery believable by weaving an irresistible, mystical mood. "I approached *Wolf* like I've done so many pictures," Rotunno recalls. "I read the script, I talked with the director, and I stayed close to Mike when he talked to the art department, the costume designer and the actors, so I would understand the mood of the story. I tried to understand what he said, and I tried to understand also what he could *not* say."

Opposite: ***Glowering in a wash of simulated moonlight, a randy Randall (Jack Nicholson) hovers over his prey, Laura Alden (Michelle Pfeiffer).*** **This page, clockwise from top:** ***Randall confronts his publishing nemesis (Christopher Plummer); Rotunno ponders his craft; director Mike Nichols (left) and his stars have a curbside conference.***

Rotunno has become pretty adept at reading between the lines with Nichols. *Wolf* marks their third effort together, following the recent *Regarding Henry* and 1971's *Carnal Knowledge*. The latter film, Rotunno contends, is most like *Wolf*, and it's probably no accident that both star Jack Nicholson: "*Carnal Knowledge* is an ironic story about love, a mixture of laughing and crying. I found *Wolf* to be the same way, but as in the play of life, many times the ironic becomes very tragic. It's a really unusual film. To begin with, Jack Nicholson becomes a werewolf, and we have some special effects, but there's also a dramatic side to the picture, which involves the love story between Jack and Michelle Pfeiffer's characters. My work was to create the right atmosphere around those two — whether dramatic, happy, tragic or sometimes ironic — to support the meaning of the story."

Rotunno and Nichols set out to crack a rather complicated nut: to weave a supernatural tale in a world so grounded in reality that the word "werewolf" is never even mentioned. Rotunno quickly realized that the film would require all of the duo's combined cinematic skills, experience, and, most importantly, intuition: "When we were shooting, I stayed close to Mike so I would understand the right mood for the moment of the realization of the story, when the word becomes image. This way, I could create pictures that would quickly immerse an audience within the mood of the film without distracting, without any personal exhibition. Following my feelings, I'd create the light and the atmosphere I believed the story needed."

Randall's lycanthropic odyssey begins on a snowy night as he drives home along a remote country road. Suddenly, a figure charges across the road, and Will hits his brakes — too late. When he emerges from his car, Will follows a trail of blood to a dying wolf, which bites him on the wrist before escaping into the night. This sequence, which comprises the opening of the film, was shot in snowy Vermont. The atmosphere Rotunno and Nichols were striving to create was one of pregnant expectation — that mystical feeling that *something* was about to happen. "Mike's decision to shoot this scene in Vermont suggested to us that we should find a real place that could convey the meaning of

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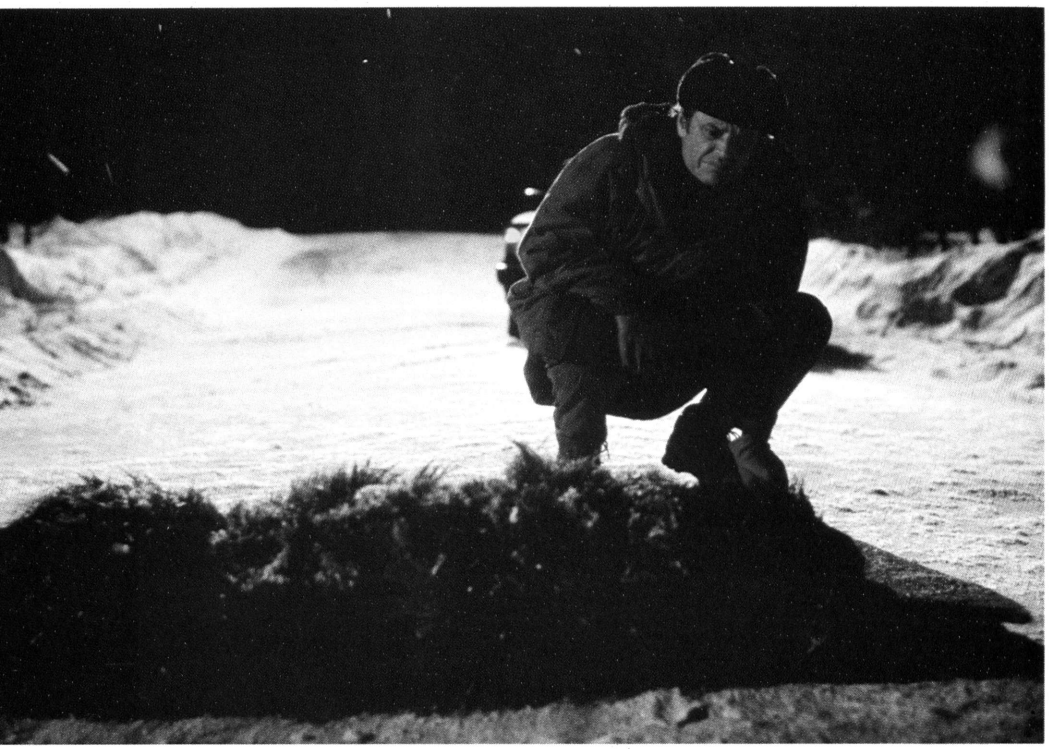
Directed by Mike Nichols
Produced by Doug Wick
Director of photography,
Giuseppe Rotunno, ASC



Although the majority of the film's opening sequence was shot in Vermont at Magic Hour, shots of Randall studying the injured wolf were completed on a Sony Studio soundstage in Los Angeles.

the scene in one shot," Rotunno says.

The first shot of the film tracks two small headlights approaching from the bottom of a valley, rising and winding ever closer until the car drives past the camera, which pans with the vehicle as it moves out of frame. "We filmed this first shot at magic hour, the hour Leonardo da Vinci called 'Night but still day, or day but still night.' We started shooting 45 minutes before magic hour, because the time the car spent going back to the bottom of the valley was all lost. When shooting at magic hour, the ultimate decision must always be made during the last five minutes — otherwise, you lose the shot. So I had to have the courage to go with my feelings and make a decision in a very few seconds. It was a gamble!"

Rotunno began shooting the sequence with Kodak 93, but as the light faded, he switched to the higher-speed 5296. "After the first shot, we started shooting night-for-night — and we were in Vermont, in March, at the top of a mountain when it was 30 below!"

After Randall's car exits the first shot, the next cut shows the car heading toward the camera, swerving to avoid the darting figure, then going into a spin. This cut was shot with one 20K light, using a double for Nicholson. But the shot that follows, wherein Will gets out of the car and kneels by the dying wolf, was filmed with Nicholson on a Sony Studio soundstage in Los Angeles. "I brought the same 20K that we'd used outside into the studio," Rotunno recalls. "The only problem the studio ceiling: there was not as much height for the 20K as there had been outside."

Rotunno encountered continuity troubles of a different sort when shooting shifted to New York for a vast night exterior at the Alden mansion, home of Will's nemesis, during a posh literary soiree. The party sequence, which occurs early in the film, sets up Will's adversarial relationship with Alden, and also serves to introduce him to his love interest, Alden's daughter. Consequently, it took quite a while to shoot, under less-than-ideal conditions. "It was night-for-night and it was a very bad time," Rotunno says. "It rained, it was cold, and we had to break for dinner every night, then reconstruct the right atmosphere afterwards to keep the continuity. And this went on for three or four nights."

One of the most complex scenes in this sequence, both emotionally and technically, was the moment when Alden offers Will a luxury post in his newly acquired publishing firm's Romanian office — a thinly veiled ploy to prompt Will's resignation. Nichols chose to handle the two-character dialogue in a lengthy walk-and-talk involving Nicholson and Plummer, who exit the villa, cross a terrace, descend some stairs into the extensive gardens and move down a tree-lined avenue. "That was a 2000-foot-long night exterior tracking shot!" Rotunno marvels. "My main light source was a 20K on a small Condor crane. I placed it at the edge of the lawn just out of frame, which was very good for us. I also had another five or six 20Ks on both sides of the main space. After Nicholson and Plummer crossed the lawn, they walked another 100 feet along a path lined with oaks, so we could easily hide our lights behind the trees in that narrow green alley."

Rotunno used a similar lighting approach for a scene in which Will takes a moonlight prowl through New York's Central Park, where he leaps atop a large rock to howl at the moon. "It's such a big area that you can't light it from outside the field of the lens," Rotunno says, "but we had lots of trees inside the frame which were good hiding places for my street lights, which I'd had the set crew build. There were also a number of real lampposts in the background, so I'd sometimes put two of my lights on each of them to improve the existing light."

The Central Park sequence involved two difficult continuity problems. First, Rotunno had to recreate his light-

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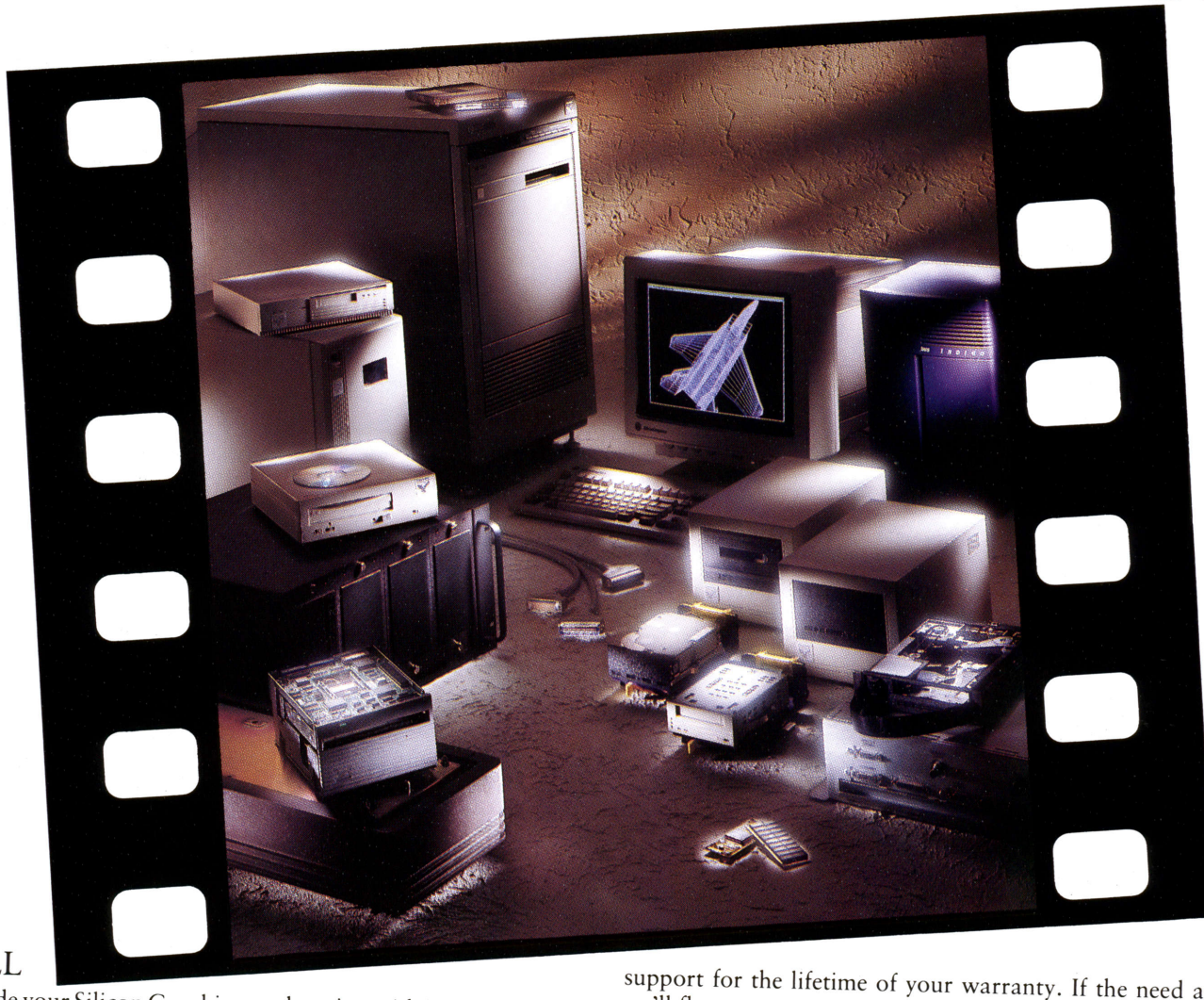

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This massive practical set, which included the Alden mansion grounds and Laura Alden's guest house, took up every inch of Sony Studio's largest soundstage.

ing to match to a direct cut from Central Park to a tunnel on an L.A. soundstage seven weeks later, for a scene in which a youth gang has an unfortunate confrontation with the wolfish Will. Next, he had to match his New York exterior look to a night shoot at a zoo in L.A.'s Griffith Park. The sequence recalls the 1935 classic *Werewolf of London*, as a confused and troubled Will gazes at the caged animals, trying to understand his newly unleashed animal nature. "We shot in the zoo on the very last day of our schedule," Rotunno recalls. "Even though we started in New York in April and finished in Los Angeles in August, the shots had to have the same mood, the same cold feeling of New York. We shot night-for-night. The hardest part was having to place my lights before the animals were brought out, and putting them as far away as possible from the animals so they wouldn't disturb them. This meant I had to imagine where the animals might move and light those areas specifically. Fortunately, it was much easier to control Jack's movements — we could tell him which cages to go to!"

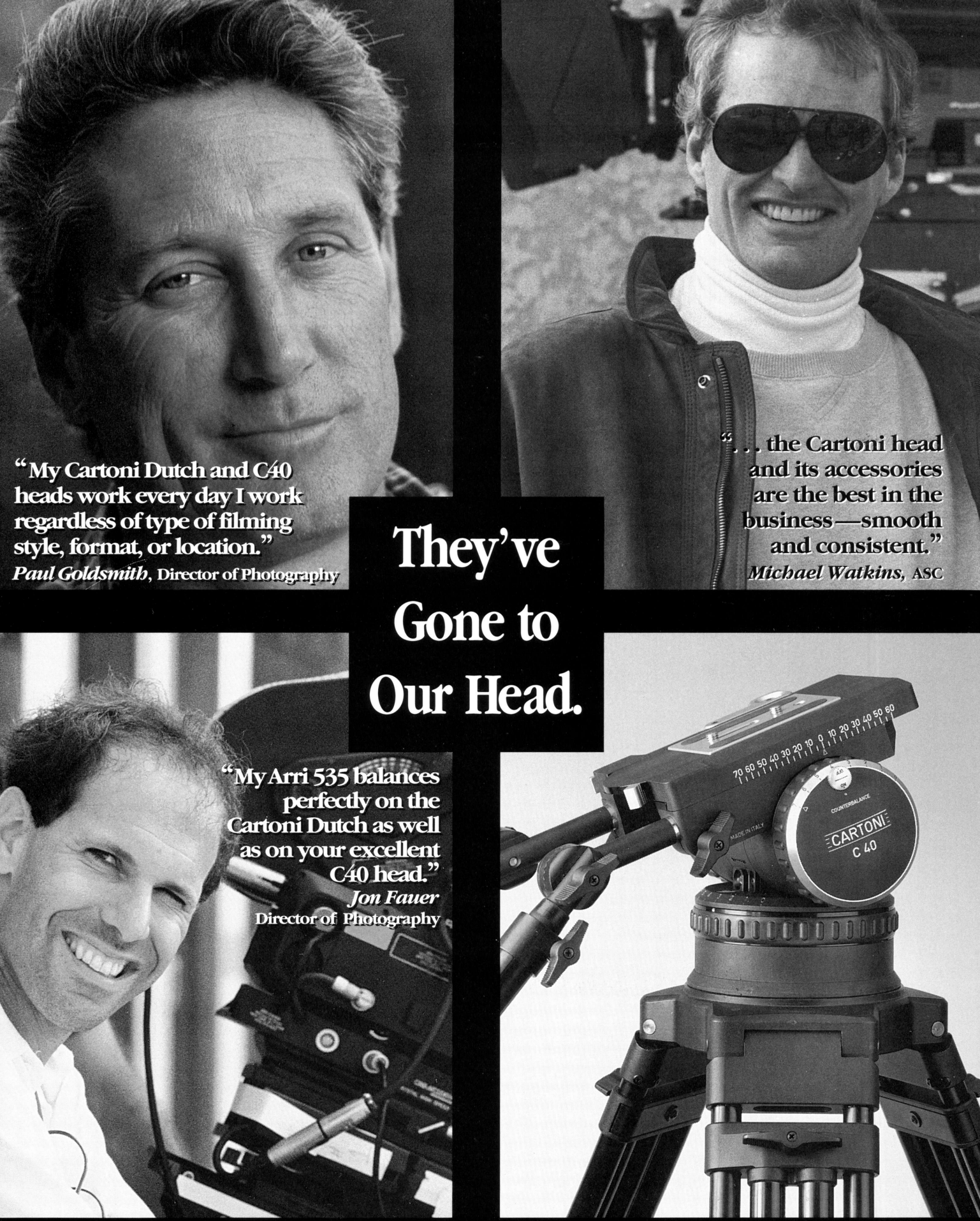
Also reminiscent of *Werewolf of London* were the lupine makeups for Nicholson and James Spader, a subtle blend of greasepaint, foam latex facial appliances and hand-laid hair, all designed by Rick Baker. Rotunno took great care lighting Baker's work. "The light can account for many things," Rotunno observes, "depending on how you use it. The light can be cover or it can be cancer, it can make something look good or destroy everything. The makeups were wonderful, but I had to take care with the light to show just enough of the werewolves' faces to make them believable." Rotunno found the same was true of several mechanical and dummy animals that were used in the film. "The direction and position of the light must be exact to create the illusion. Also, there must be just enough light to see, but not too much to see that it's fake!"

But there is another technique, other than great cinematography, essential for working with special effects, makeup and animals, both real and artificial: sustaining the mood and continuity of the film during the hours between takes. "This was very hard for Mike, who was not used to working with these things," Rotunno submits. "When you use so many special effects and animals, it's easy to lose the rhythm. We'd try a shot, then take a rest for the animals — there's no rest for the men! We'd have to wait a couple of hours before we could start again on a particular scene — which sometimes featured some very dramatic moments for the actors — without losing the vibrancy of the performances."

Rotunno says, "I took great care with the wonderful faces of the lead actors in the love story, Michelle Pfeiffer and Jack Nicholson. I try always to approach my work as if I'm a character in the film: I try to get inside the story and look around, then choose the best approach to bring out the meaning of the story."

Rotunno and Nichols ably contrasted the warm, romantic character of the love scenes with Will's moonlit forays. "Generally, the colors were warm for sunlight and an extremely light, cool blue for moonlight, which I used in all the night scenes," Rotunno explains. "The daytime scenes were shot at the end of the day when the color becomes warm. The love scene on the river between Jack and Michelle was shot on location toward sunset. The next scene, when they go inside Laura's small guest house, was shot on the stage, but also used the same warm light coming through the window both for continuity and for romance."

Undoubtedly, the hardest aspect of the film to sell to a modern audience is Will's nocturnal activity, but Nichols chose to give these sequences a decidedly dreamlike quality through a remarkable use of slow-motion. Admittedly, having Jack Nicholson run around on all fours sounds silly, and this silliness might have been exacerbated by slow-motion, but Rotunno's magical style took the curse off the idea. When Will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Makeup Effects for *Wolf*

It's ironic that Rick Baker, the man whose Academy Award-winning change-o effects for *An American Werewolf In London* practically defined a cinematic era, should find himself, in this age of computer effects, creating a makeup that harks back to the earliest techniques of cinema and stage.

Baker, whose credits include *Harry and the Hendersons* and *Greystoke*, saw *Wolf* as a character piece where the makeups weren't the star. "I knew the makeup had to be subtle, so it wasn't going to be like trying to do another *American Werewolf* in a week."

Baker told Mike Nichols that the film wasn't "about putting a rubber dog nose on Jack Nicholson" and he agreed it would be a big mistake to cover his star's face with rubber. Baker was given one test day, and he devised a werewolf makeup reminiscent of those the great Jack Pierce designed for films like *Werewolf of London* (1935) and *The Wolf Man* (1941).

After the test, Baker redesigned the makeup: "Jack's more man than wolf. He wears very few appliances: false ears and a small piece between his eyes that makes the inside corners more wolflike and widens his upper nose. There were also teeth, some carefully applied paint and loose hair." Baker got off to a bit of a bad start with Nicholson when he refused to insert noseplugs to create a more bestial look. "I told him the plugs made him look like a pig!" he laughs. Baker hoped to enhance Nicholson's appearance. "I wanted to make him attractive in a strange way by hand-laying the hair like Jack Pierce did. Nicholson ended up liking the makeup because he thought he looked sexy as a wolfman."

After licking Jack's lycanthropic transformation, Baker still had to attack James Spader's. Nichols wanted the makeups to be virtually identical, but after Baker did a test on Spader, they both concluded that was the wrong approach. "Just putting hair on James' pretty face didn't work — it looked like Eddie Munster," Baker laughs. "So I asked Mike to let me put some rubber on James."

Baker had to use a lot of rubber to bring Spader up to Nicholson's level. Like Nicholson's makeup, Spader's consisted of a number of stages. "First there was some progressive paint and subtle hair," Baker recalls, "then he just wore cheekbones and some little pieces on his ears. He had an in-between stage that was a more subtle version of the final makeup, which eventually grew to the point where most of his face was rubber: brow, cheeks and a thick, muscular neck, and of course, teeth."

Baker's next chore was making up the stuntmen to match Spader and Nicholson. Three different stuntmen doubled Nicholson, and one of them doubled both Nicholson and Spader in the climactic fight. "Since that guy had to be able to bounce back and forth between playing Jack and James," Baker says, "I couldn't do a four-hour makeup on him. Instead, I made foam rubber masks of Jack and James that could be slipped on quickly and tacked down at the eyes and mouth. I ended up making masks for all three stuntmen, in each of the stages of the makeups."

Pulling a makeup out of his kit is the ultimate proof of a makeup artist's mettle, especially one as rooted in the history of his craft as Rick Baker, whose idols are Jack Pierce and Lon Chaney, Sr. *Wolf* provided him with that rare opportunity, and he rose to the occasion with skill and imagination. "I actually had fun — in all its chaos, *Wolf* was very different from anything I'd been used to. There was no prep time. It made me go back to my roots of makeup." — RM

chases and kills a deer in the snowy wood outside Laura's house, the sequence doesn't seem remotely funny; instead, it's chilling. "Jack was intercut very well with his double, who was running on four legs in the snow behind the deer," Rotunno says. "That scene was shot at Sony Studio. But long before that, we did several tests with the double to find the ideal speed for the camera. Movement is not always the same, so you can't always shoot it at the same speed. If the subject moves right to left, diagonally, it requires a different speed than if he runs straight toward the camera. As it turned out, Mike, the editor and I decided to shoot at many different speeds for each shot, from 60 fps to 96 fps to 120 fps, and then choose the best one in the cutting room — so the slow-motion actually changes speed from slate to slate."

Rotunno and Nichols' use of slow-motion achieves its zenith during a fight to the death between rival werewolves. Will inadvertently creates his own worst enemy when he bites Swinton after learning that his rival was having an affair with his wife. The final confrontation takes place in a stable on the Alden mansion grounds. Along with Laura's guest house, the stable comprised a massive practical set that took up every inch of Sony Studio's largest soundstage. "It was necessary to hide our lights inside the stable for this sequence," Rotunno says, "so I asked the art department to build in some lights we could have in the shot. There were lights in each of the stalls and there was also an overhead light. Practically, we lit for 360 degrees, which gave the actors and stuntmen the freedom to jump around and allowed us to shoot with two cameras to catch the best action in each take. The difficulty was that the stable had to look atmospheric, but I needed enough light so I could close the stop to get some depth of field for the scenes with movements. We

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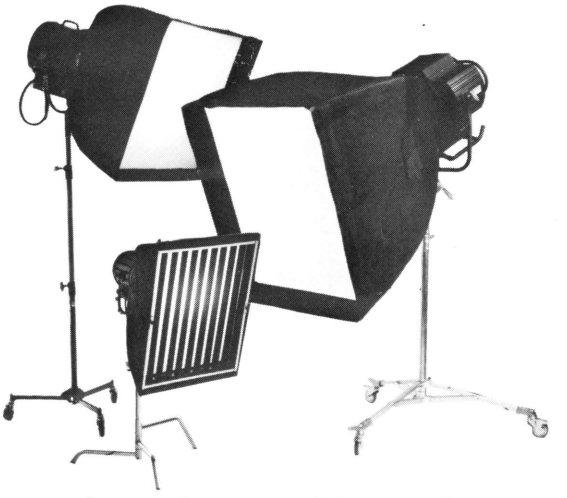

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used high-speed Kodak 96 because of our low-key light, which meant I couldn't shoot wide open or I would have lost the depth the focus puller needed to follow the actors' movements. The average stop was 4, but sometimes, such as when we were shooting 120 fps, I had to be ready to open the stop to get the shot. There was no other way to improve the light in such a big place in such a short time — it would've been disastrous."

The fight climaxes outside the stable, which meant that Rotunno had to light the entire interior/exterior set, from the stable to Laura Alden's guest house. "That wasn't too big a problem," Rotunno laughs, "because everything was always ready to shoot, night or day. I rigged three sets of lights that could be switched very quickly — sunset light, daylight and night light — because it takes so much time to change lights otherwise. But we sure needed a lot of lights! For the fight, I used a mixture of the cold moonlight effect I set in one area of the stage, and warm street lights on posts which we brought from the house location in New York so we'd have some continuity in the lighting style of the Alden mansion."

Despite the countless technical hurdles Rotunno surmounted while filming *Wolf*, his only interest in the technique of filmmaking is to encourage his intuition. "When I work, I go with my instincts," Rotunno says emphatically. "I only need the technical to express myself. It's like playing the piano — you need technique, but real playing is in the feeling and the touch. For filmmaking, I needed to learn every technique to be prepared: what was the best film, the best light, even the best time to develop. I studied everything because I needed to, but afterwards, I wanted to feel free. I prefer to make some mistakes by going with my feelings, rather than doing something that is technically precise but without feeling. A film is not just a technical mission, it is a story with a director and many people working on it — the designers, the makeup people, and so forth. It's not only for me. But ultimately, the photography should hold the film together."

A longtime member of the ASC, Rotunno speaks fondly of his many friends and teachers there, especially his mentor, the late Leon Shamroy, whom he calls "a really great man." Though Rotunno has reached a point in his career where his name can be spoken in the same breath with Shamroy's, his quest for excellence never ends. "Every day," he says warmly, "I heartily try to improve my work not just technically, but also in a human way. On each film I shoot, I change the style, even if I do more than one film with the same director. I did nine films with Fellini, but of course *Amarcord* is different from *Casanova* or *Satyricon* or *City of Women*. In the end, you may be able to recognize my style, but I try to go with the story."

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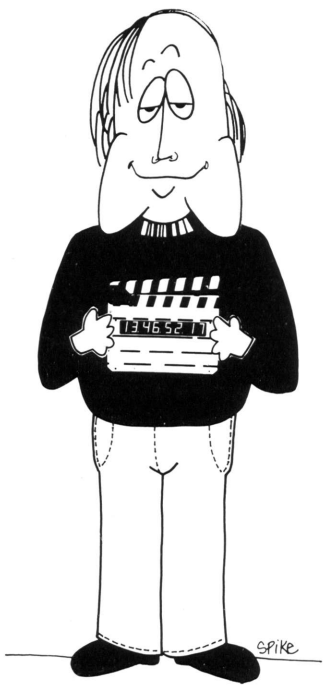

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Janusz Kaminski
Schindler's List
Academy Award winner,
ASC Award nominee

Schindler's List mixes the chaotic quality of a home movie with the exceptional craftsmanship that distinguishes Steven Spielberg films. The story was filmed in black & white in Krakow, Poland, where the actual events it depicts occurred some 50 years ago.

"I have only good memories of actually making the film in Poland," says the 33-year-old director of photography, who has earned broad critical acclaim for his work on this extraordinary film. In addition to the Oscar and an ASC nomination, Kaminski has received the Chicago Film Critics Award.

Kaminski brought unique insights to the making of *Schindler's List*. He grew up in Poland, migrating to the United States in 1981 as a political refugee. On one hand, he found grounds for optimism in his homeland: a core of energetic young filmmakers who are just starting their careers. "They are used to working under the Western European system, because there are many co-productions there," he says. "And they are excellent workers. I had great electricians and very good grips to work with. They are young, eager, energetic people who don't have all this ballast of previously working under the Communist system. They have energy, just like us."

But some things don't change easily. "I was hoping it would be a different country than the one I left, but I found that the generation that devoted its life to this failed system, Communism, is very disillusioned now," he says.

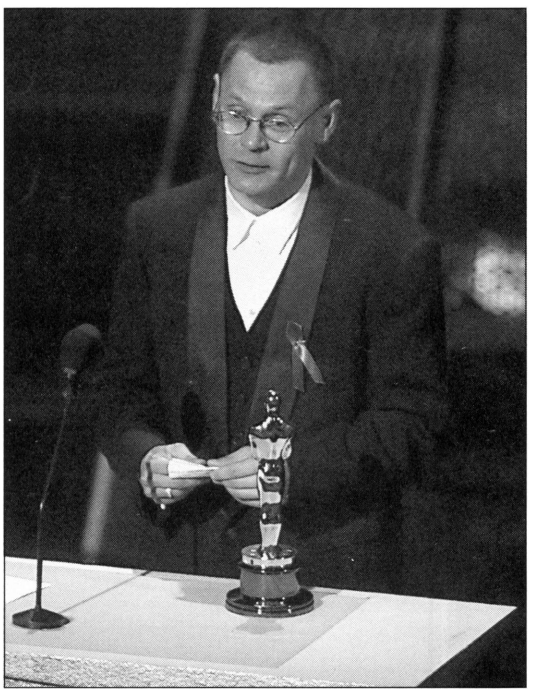
The decision to produce *Schindler's List* in black & white is consistent with the public's memory of historical documentary footage from the war. It also provides an aura of stark realism that lends the film part of its artistic edge.

"It is much easier to lead the audience to what you want them to see," Kaminski says. "You either light the face, or you light the background. The eye naturally goes to the brightest object in the scene, rather than to something with bright color. So it helps us to focus the audience more clearly on the story."

Judging by the critical and public response to the film, it's fair to say that he succeeded. But along the way, both he and the crew struggled with an unfamiliar medium. The black & white stocks — which were invented a half-century ago — clearly illustrated to Kaminski how far today's color negative films have evolved. He occasionally yearned for the latitude and speed offered by color stocks, but stood by the decision to originate in black & white for the sense of historical accuracy it helped to create.

Spielberg arrived for filming each day with a broad outline of what he wanted to accomplish, but not storyboards or a shot list. For Kaminski, this meant a lot of thinking on his feet, which he welcomed. "You learn that in some emotional way, it's so much better to work from instinct," he comments. For example, the crew would occasionally light an interior fully, then extinguish lights during the actual filming to take advantage of the overcast skies and resulting soft light that predominated during production.

Without color to make depth distinctions, Kaminski points out, the eye depends on tonal differences. So both wardrobe and wall colors were chosen to be either lighter or darker than facial tones. Special film tests



helped the art director to translate the color gamut into a different language of grays.

Kaminski was also on hand for the timing of most scenes during postproduction. To maintain the look of black & white without any chance of a color hue invading, the film was released primarily on Eastman fine-grain release positive film 5302. But distribution was slowed because the few scenes filmed in color were printed on color stock, which was then hand-spliced into each print at Deluxe Labs in Los Angeles.

The photo on this page was taken with a NEWS CAMERA 2000 digital camera developed by Eastman Kodak Company and the Associated Press.

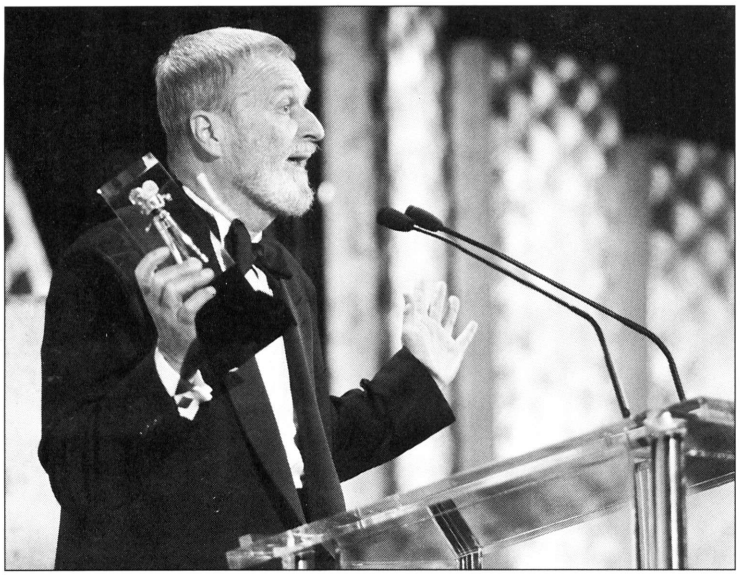


Photo by Chris Pizzello

Conrad Hall, ASC
Searching for Bobby Fischer
ASC Award winner,
Academy Award nominee

Conrad Hall's approach to *Searching for Bobby Fischer* reflected his own nature. "I'm a philosophical kind of person," he explains. "I grab onto a basic of the story, and that becomes the foundation of everything. What I like to do is get a kernel of understanding, a one-sentence view of what the story is, from which springs all of the storytelling needs as they occur. I like what I do to be instinctual, but based upon a fundamental truth or poetic vision of the story."

In the case of *Bobby Fischer*, which tells the true story of a young boy's rise to prominence in the high-pressure world of competitive chess, "magic naturalism" became the mantra that described Hall's method. "Prior to this film, I had been moving toward naturalism on several other pictures — naturalism being, to me, 'the way it is.' The magic consisted of stylistic touches to heighten the atmosphere. A good example of this approach is a shot in which the father and son are coming down a hallway where there's so much light they seem to be floating. I used 20Ks and blew out the windows at the end of the hall. It's those little things that give you that sense of 'I've never seen this before,' and that's the essence of what magic is. Throughout the picture, I used light in both exorbitant and understated ways. I'd occasionally use so much light that it would blow things out, but other scenes are so dark that you're almost struggling to see. Of course, such an approach has to be integrated so it doesn't distract from the story."

To achieve the look he wanted, Hall says, "I didn't use any zoom lenses at all, and I used very little diffusion — an eighth to a quarter ProMist was the only thing I ever used. These Primo lenses are so sharp that they're sometimes brutal; I wanted naturalism, not brutality, so I added just a little bit of softening to take that edge off. Every shot was difficult from a technical standpoint, because I was mostly on long lenses to get the close-ups we needed. The depth of field was extremely narrow, to the point where the focus puller, Tony Guerin, would ask, 'Which eye do you want in focus, Conrad?' He just couldn't carry both of them.

"I was working at T1.9, which was as wide-open as I could go on the lenses. Every shot was done at 1.9, which is the minimum focus of the lens, at the least desirable end of it. I like the way the new film gathers light, so by not stopping down I could gather the most light and print where I like to print with the fast film, which is at the 'edge of the cliff' — where one light more will push you off and give you junk. On the other side, you're exactly the way you want to look, with no grain, because you overexposed rather than underexposed."

Hall feels that his strategy of alternating areas of light and darkness made sense not only aesthetically, but logistically. "I didn't want the picture to be like *Leave It to Beaver* or the typical brightly-lit boy's film," he says. "I felt it was a drama about the nature of genius and of parenting, and also about the philosophical adversities of coaching. There were conflicts between the different styles of Josh's coaches, as well as the jealousies that occur between a prodigy's parents and his coaches."

Particularly effective is a scene in which two boys circle each other at a distance, John Wayne-style. "That's one of my favorite shots, because it really captures the terror that you feel for competition with someone who has such a great reputation," Hall says. "The magic naturalism occurs when Josh walks to the Coke machine, then starts to come back but suddenly changes direction and circles the other way. When we did that shot, I didn't know Max was going to walk that way; he just did the wrong thing. And when he stopped, he was under an illuminated portrait of Bobby Fischer that was in the background. I didn't set that up, and the director didn't set that up; it's the kind of accident that provides magic. I'm *looking* for the accident, the joyous happenstance that occurs with filmmaking, rather than going through some tortured manufacturing of the image. What's happened today is that because of video assist, everyone thinks they're a master at it, and they start torturing the image from the video screen without thinking about the camera or anything else. Unfortunately, today the collaboration occurs less with the real filmmakers than with people who aren't filmmakers but have the power or access to

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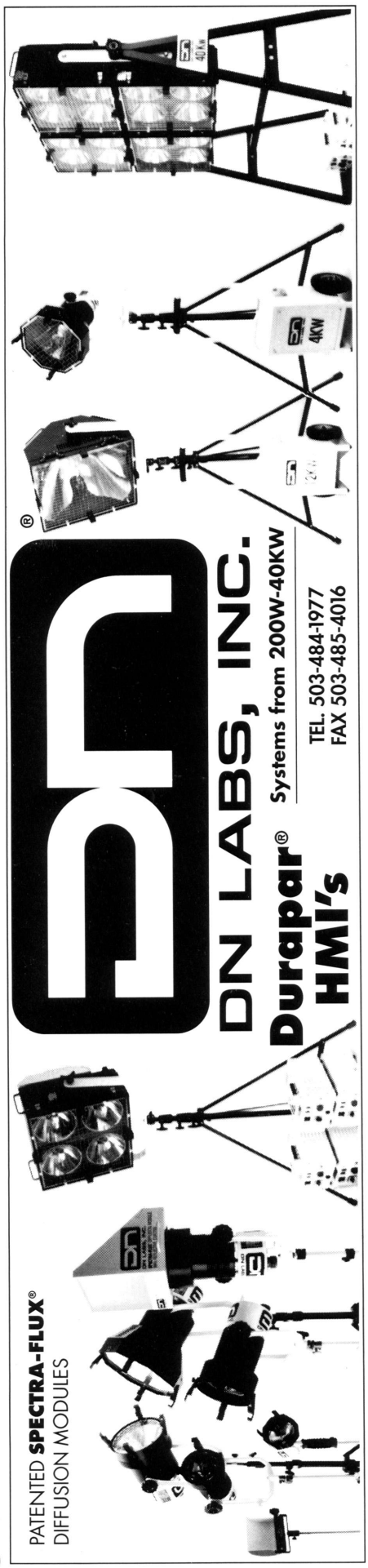

be able to help with the manufacturing process."

Reflecting upon the project, Hall concedes that *Bobby Fischer*, while critically acclaimed, didn't generate the kind of box-office numbers that excite industry bean-counters. In his next breath, however, he quickly dismisses such considerations as "irrelevant" to the integrity of the work itself, and maintains that the film will always occupy a special place in his professional memory. "It's a nice film and it's a film I'm terribly proud to have been a part of," he says. "It's a work of substance, quality and feeling, and that's what storytelling is all about."

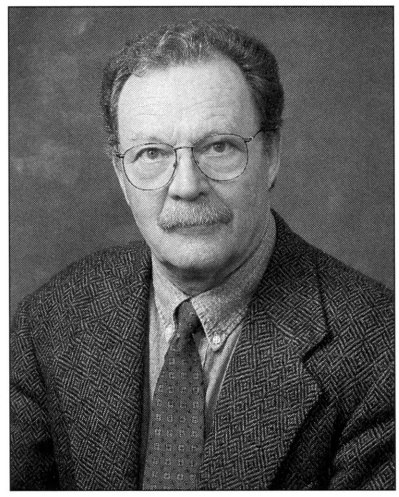

Photo by Merrett Smith

Michael Chapman
The Fugitive
ASC and Academy Award nominee

Michael Chapman, who grew up in New England and studied American history at Columbia University, was "obsessive about going to movies as a youngster," he recalls. "However, everyone my age did that. It was our television. I never dreamed about making films. It wouldn't have occurred to me that it was something that ordinary human beings could do." His career was shaped by necessity. "I got married and started to raise a family," he says. "I needed a job."

Chapman was already on the fringes of the film industry, only because some acquaintances were involved with making avant-garde movies. His own opportunity came in 1960, when a relative helped him get started as a film loader for a commercial production company in New York City. "Survival is a great motivator," he says. "It was a great way to learn. I knew that I needed the work."

Chapman later became Gordon Willis' operator, serving in that capacity for about six years. "I probably learned more from him than anyone," says Chapman. "Mostly, I was impressed by his work habits and attitude. I learned that filmmaking is a serious business. It's not just something you learn — a series of tricks that you can repeat by rote. You have to be thinking all of the time, and thinking hard."

His first feature film as a director of photography was *The Last Detail* (1972). He went on to shoot *Taxi Driver, The Front, Fingers, Invasion of the Body Snatchers, Hardcore, The Wanderers, Raging Bull* and *Dead Men Don't Wear Plaid*. Chapman also oversaw principal photography on *The Last Waltz*, widely acknowledged as one of the finest concert films ever made.

Martin Scorsese first spoke to Chapman about *Raging Bull* during the summer of 1978. "I'd worked with Marty on a number of films, including *Taxi Driver* and *The Last Waltz*. *Raging Bull* was something that I really wanted to do. Marty was already speaking about shooting it in black & white, and for several reasons that had a lot of appeal to me. However, I was also talking about doing *The Wanderers*, and that was ready to start. I gambled that we'd be finished in time to begin *Raging Bull*. It worked out. We began preproduction planning for *Raging Bull* in early 1979."

In a 1980 interview, prior to his experience directing *All the Right Moves*, Chapman said, "I've

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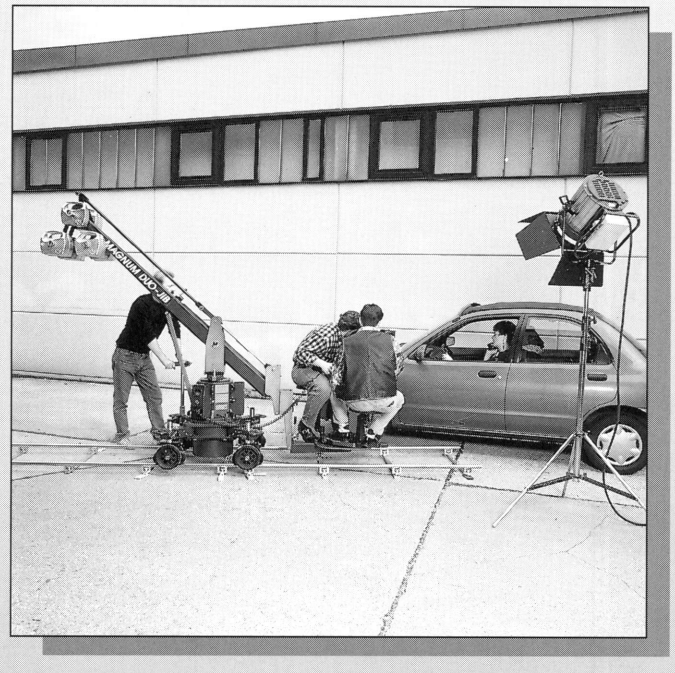

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also always wanted to direct, and I believe that I will someday, but the urge isn't as keen as it once was. The thing that really touches me is acting. I believe cinematography is much closer to acting than most people realize. I used to think of actors as the people who never hit the mark, or were late, or angry. Later, I became more appreciative and empathetic. The unique thing about acting on film is that you simply can't fake it. You have to become whomever you are portraying. Otherwise, the camera sees it every time. The other thing is that it's on film. If an actor in a live theater has a bad night, there's always tomorrow. That's not true with film. All of this is also true for the director of photography. You can't fake it. And once you've rolled the camera, the film is there for everyone to see."

In another interview, Chapman reflected upon his career thusly: "Movies have been very good to me and I have no complaints. I've been working as a director of photography for a very long time, so some of the blush is probably off the rose, but I do still have fun. I enjoy the process in a certain grumpy kind of way. I enjoy making movies, making them fast, and doing them well. And, although I grumble and complain a lot, I still enjoy the problem-solving. It would be silly to say that I don't. And I enjoy those occasional moments when something slightly beyond problem-solving seems to occur, almost by accident. Those moments are perhaps not too frequent, but they do happen, and when they do you realize why film is the great art form of the 20th Century, and why you are privileged to be a part of it. . .

"I wish I could have some more profound things to tell you," Chapman concluded. "I wish there were some great thing dredged up from my psyche that I could say was the key to all these things, but there isn't. It's a mechanical medium and you've got to do the mechanics and let the mechanics give the aesthetic pleasure."

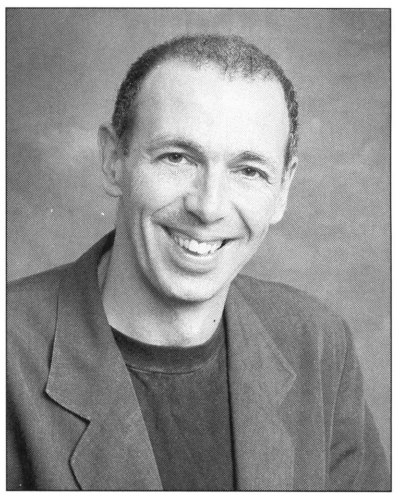

Photo by Merrett Smith

Stuart Dryburgh
The Piano
ASC and Academy Award nominee

The acclaim for Jane Campion's *The Piano* has helped make Stuart Dryburgh's stunning cinematography a hot topic. According to the 41-year-old New Zealander, the film's unusual look grew out of extensive preproduction testing. "We looked at a lot of old photographic techniques, particularly one called autochrome, which creates a look similar to the daguerreotype," Dryburgh reports. "That process resulted in a lot of strange color biases, which fit Jane's desire to give the film a subtle period feel without using more conventional techniques like sepia tones or soft filters."

Dryburgh developed an interest in film while studying architecture in college. His graduation from school coincided with the burgeoning of New Zealand's nascent film industry, and he soon found work as a lighting assistant and then as a gaffer. Because the New Zealand scene was wide open, he made a "surprisingly easy" transition to director of photography. "Basically, the prime qualifications were 'Are you interested?' and 'Are you unemployed?,' in which case you were avail-

able," Dryburgh recalls with a chuckle. "Why did I want to be in films? Why does anyone want to be in films? You go to the movies, sit in a darkened room, and magic happens.

"It took a little while to figure out that I wanted to be on the camera end of things. I made a student film when I was at university, literally with a book in one hand on how to make films. It was a pretty messy film and I kind of rescued it when I cut it. I turned it into a story that it didn't really deserve, and I thought, 'This will be cool. I'll be an editor.' But then I found out that editors spend all their lives in little black rooms. No disrespect to the editors, but I'm not an indoors sort of person and I soon found this whole other side, production, that was less cloistered.

"I guess I was very lucky," he reflects. "There were people who had faith in me, established commercial makers who used me as a gaffer. They knew I could light, and gave me a chance, mostly at very static things originally. There were also young filmmakers who were making rock videos and commercials and who needed somebody cheap."

Dryburgh's eerie black & white cinematography on *Kitchen Sink*, Alison Maclean's acclaimed short film about a woman who finds a slime-covered, fully-grown man in her drain, impressed director Campion, who subsequently hired him to shoot *An Angel at My Table* and then *The Piano*. Dryburgh is currently planning to collaborate with independent filmmaker Mira Nair (*Mississippi Masala*) on her next project.

"I'm totally delighted with the response, of course, but I have to confess that I'm a little surprised," says the self-effacing cinematographer. "I knew *The Piano* was a special picture when I started it. It read well, and I had worked with Jane Campion and knew her to be a very clever filmmaker. In rehearsals with the cast

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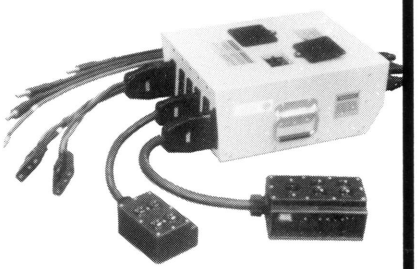

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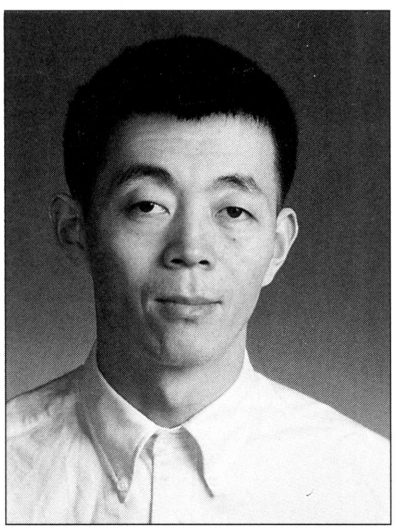
I saw the commitment that they were giving. I knew it was going to be special, but it could have been just special to New Zealand, it could have been special as an art-house film — there was no way of ever knowing that it would be successful on the world stage. We knew we'd made a good film, but until a film goes out into the world, you can't really tell whether you've struck a chord that will resonate in people's hearts, the way this film obviously has. It's been quite a remarkable experience."



Gu Changwei
Farewell My Concubine
Academy Award nominee

A film of epic sweep, *Farewell My Concubine* traces the tumultuous relationship between Duan Xialou and Cheng Dieyi, two Peking Opera stars, against the equally unstable and ever-changing backdrop of political turmoil in 20th-Century China. Filled with stunning images, *Concubine* earned cinematographer Gu Changwei his first Oscar nomination.

Born in 1957, Gu graduated from the Peking Film Academy's cinematography department in 1982, and was subsequently assigned to work at the Xi'an Film Studio. *Farewell My Concubine* is his third collaboration with director Chen Kiage, following 1987's *The King of Children* (for which he won China's Golden Rooster Award for cinematography), and 1991's *Life on a String*. Gu's resumé also includes Ten Wenji's *The Beach* (1984), Zhang Zien's *The Magic Braid* (1986), and Zhang Yimou's *Red Sorghum* (1988), which was awarded the prize for best cinematography at the Hawaiian International Film Festival, and *Ju Dou* (1990). He also recently completed work on *The Trail*, a Hong Kong-China co-production directed by Zhou Xiaowen.

The visual splendor of *Farewell My Concubine* is typified by the film's opening scene, in which the two elaborately costumed opera stars prepare to give a final performance in a vast, deserted auditorium. Bathed in the ray of a single spotlight, the characters eye each other in a way that hints at the personal tribulations they have endured together.

Those trials are soon revealed in the flashbacks that comprise the main body of the story, which begins at a 1940s political rally. This sequence was shot in color and then desaturated to black & white in postproduction, with traces of color left in to highlight key details, such as red banners. Speaking through a translator during a recent interview at a Los Angeles hotel, Gu explained this strategy by noting, "The black & white was used to signify a memory of the past." To enhance this effect, the cinematographer made use of very subtle filtration throughout the film. "I wanted to make the film stylized, so the viewers would feel as if they were watching an old dream," he said.

The story of *Concubine* covers many different time periods, but the filmmakers used the main characters' opera performances to tie the picture together thematically. "A central motif of the film is the stage," Gu noted. "We tried to present the idea that throughout the movie's different periods, one can see the human relationships reflected on the stage. The opera scenes some-

times mirror what is happening in the characters' lives."

The lavish opera sequences provided the cinematographer with his biggest lighting task. "I really like to use the lighting to create a mood," he said. "Sometimes using one light as a source, as in the film's opening sequence, is most effective. But in the opera scenes, we used as many as 300 lights. There were about 20 individual opera scenes that took place in the same locale, most featuring 400 or 500 extras. We also had to somehow indicate that these performances took place at different times in the characters' lives. Because of the number of extras and lights, we had to be very careful about the direction of the light sources. When you have very little light, it can be difficult to create a mood, but when you have a lot of people and lights, it can get confusing. In that situation, you have to be very systematic in your approach so that the whole film has a unified style."

Gu confessed that the challenge was made greater by his own perfectionist tendencies. "I'm very obsessed with using light in service of the director and the actors, so that they won't have much interference as they're moving through the scene," he said. "I worry about every detail, and I'm always concerned with blending the colors and the lighting. I would have to be consulted, particularly in preproduction, before any choices were made about the colors of props, sets or costumes."

The color red is employed liberally throughout the film, but its symbolic value changes from scene to scene. "The fates of the characters are motivated by a lot of insecurities, and they also go through a lot of excitement," Gu noted. "At times, the color red signifies glory — as in the scene where the two young boys escape from school and see their first opera performance. They react to the opera with the same excitement that a

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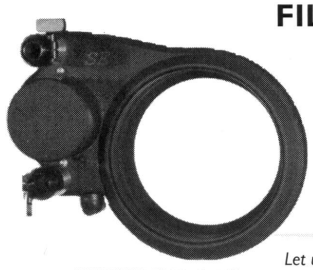

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young person today might have at a rock 'n' roll concert. During a later scene at a high-class bordello, the red is presented in a somewhat 'clumsy' way to reflect the nature of the surroundings.

"I tried to use red in a conscientious way at the beginning of the story; later on, it gives way to the use of a more solitary, lonely blue when the characters have grown up. The film mediates between these two poles."

Gu, who cites Vittorio Storaro as one of his main influences, said that he is currently planning to shoot a feature in Europe this summer.

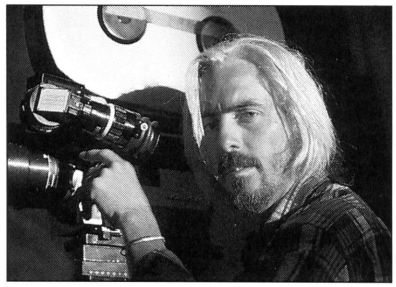

Photo by Roland Neveu

Robert Richardson, ASC
Heaven and Earth
ASC Award nominee

"*Heaven and Earth* is about physical survival from a Western perspective," comments Robert Richardson. "The film is almost Darwinist in the way that it deals with survival."

However, Richardson also found an entirely different dimension to *Heaven and Earth*, one requiring a different mindset. "Being Christian, I had a very difficult time visualizing the world through the mind of a Buddhist," he admits. "It was both a personal and a professional struggle. Furthermore, how do you visually depict a Vietnamese woman moving through a spiritual existence for a Western audience? You can photograph the physical traumas she deals with, but how do you translate her spiritual sensibilities?"

In preparing for the film, Richardson consulted with Le Ly Hayslip, the Vietnamese author on whose books the film is based,

and the story's central character; he also read Buddhist teachings and the works of writers in Vietnam, particularly those who were active during the war, because he wanted a sense of the particular time and place. Richardson had read Hayslip's first book, *When Heaven and Earth Changed Places,* a few years earlier. He read the original manuscript of her second book, *Child of War, Woman of Peace,* during preparations for the film.

Early on, Richardson also began exploring ways of stamping a visual color identity on Le Ly's spiritual experiences, to define her relationship with her environment. "All of a sudden I slid into thinking about theosophy," he recalls. "Rudolph Steiner and others involved in theosophy had some interesting ideas about auras, and the representative meanings of various colors. Steiner was very specific in articulating particular definitions of the quality and illumination of light and color in particular auras, as framed in various stages of spiritual enlightenment."

"For Steiner, a man's aura physically demonstrates how far they know how to live not for themselves but for the eternal, an easy enough concept until you try to translate it. For example, green, for Steiner — and this is an oversimplification — can signify obtuseness and indifference as well as inner awareness. It's confusing, but for Steiner it all relates to the development of spiritual enlightenment.

"We used colors on walls, in clothing, and in the quality of light coming through windows. We tried to tap into what we saw as the highlights of her spiritual awareness, when she was a child, as she grew into her teens, and then into her thirties."

Richardson met with some frustration in his attempts to work with the concept. "We tried to record key spiritual moments, but it was very difficult or

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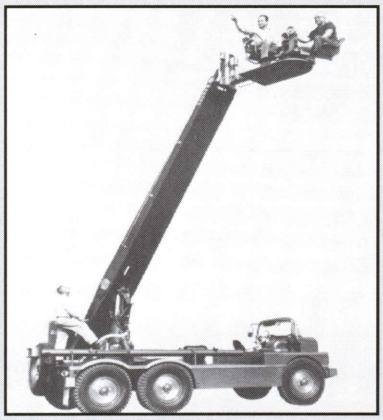

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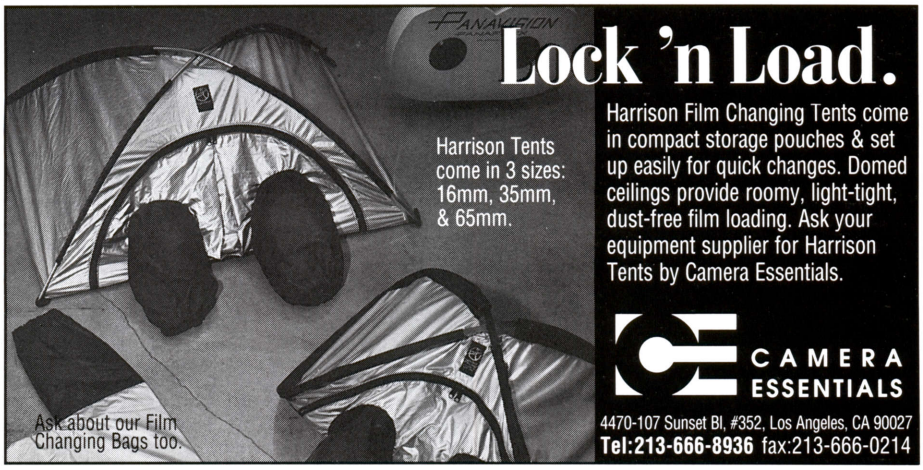
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impossible in the real world. If we were shooting in a paddy, we were infused with green, which as I said represents an inner light for awareness. But in that scene we were trying to depict a selfishness to her actions. It was impossible without altering the terrain."

However, the cinematographer did not completely fail to translate his desired nuances onto the screen: "It's not a failure that is evident to the audience," Richardson says. "They see a softer and more lavish look earlier in her life, compared to the harsher and more fragmented images later on."

The importance of Thailand's vast landscapes in *Heaven and Earth* helped make the anamorphic format an option for the filmmakers. "We wanted a wider frame which allowed the environment to unfold," Richardson explains. "We wanted the characters to seem small inside this frame. We desired to express the dominance of nature."

How does Richardson view his personal evolution as a cinematographer while working with Stone? "I've become very spoiled by Oliver because of the material I get from him," Richardson says. "I have very high expectations for the subject matter that I shoot. He also brings a lot of passion to his work."

While Richardson's name is most frequently linked with Stone, his other credits include *Eight Men Out* and *City of Hope* with John Sayles, and *A Few Good Men* with Rob Reiner.

Richardson has earned ASC Outstanding Achievement Award nominations from his peers during five of the past eight years, for *Heaven and Earth*, *Platoon*, *Born on the Fourth of July*, *JFK* and *A Few Good Men*, in addition to Oscar nominations for *Platoon*, *Born on the Fourth of July* and *JFK*, the latter of which won the award. He has also earned Independent Spirit Award nominations for his work on *Salvador*, *Platoon* and *Talk Radio*.

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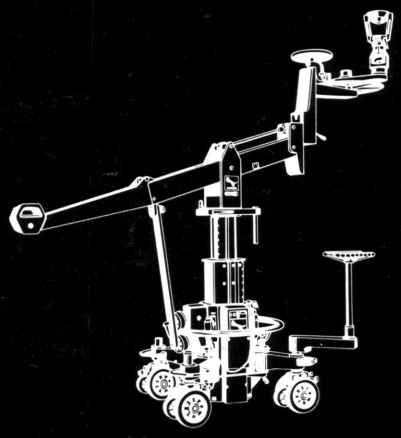

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The Girl in the Watermelon Offers Seeds of Surrealism

Part 2 in a 2-part series examining independent production on the East Coast.

by Brooke Comer

"I love doing independent films," says cinematographer Irek Hartowicz, who moved to the U.S. in 1980 from his native Poland after working with some of that country's leading filmmakers. "There's a certain similiarity between the way you work on an independent project and the way we worked in Poland. Independent movies usually don't have a big budget or all the tools of a major motion picture. You're trying to find a way to create images that work with the story without compromising the quality of the story. You have to make do with the tools you have and use your imagination. You have to create your own aesthetic."

In Poland, Hartowicz worked on Andrei Wajda's Academy Award nominee for Best Foreign Film *Maids of Wilko;* Krzysztof Zanussi's Cannes winner *The Spire;* and Jerzy Kawalerowicz' *Meeting Over Atlantic.* But when he moved to the U.S., the cinematographer had to compete in a new market. The success he'd achieved in Eastern Europe was impressive, but it took time for Hartowicz to gain recognition and respect from his colleagues. His recent independent films, Sergio Castilla's *The Girl in the Watermelon* (which was the opening-night selection for the New Directors Series at New York's Museum of Modern Art) and John Paragon's *Twin Sitters,* reveal his talent not only as a craftsman, but as an artist.

While he was still in high school, Hartowicz began shooting on a still camera which he shared with his sister. "We could never afford a good one," he admits, "but that didn't matter. I was always interested in faces. I loved to shoot." He never thought of a film career "because no one thought of cinematography as a career back then." But after high school, Hartowicz' fascination with images led him to apply to the prestigious Polish Academy of Film, Television and Theatre Arts at Lodz, which accepted only one out of 40 applicants.

His all-encompassing education at the Academy included the chance to learn his craft on 35mm cameras, and to work on professional films. "The industry in Poland is so small," Hartowicz explains, "that by my third year, I was operating for a TV special. Then people knew me, and began to call me for bigger pictures. It was much easier to break into the film community there."

In working with the school's not-so-state-of-the-art equipment, Hartowicz and his fellow students learned not only to solve problems and fix equipment, but to improvise — to create images from exciting angles rather than with cranes or dollies.

Hartowicz received an intense course in camera moves while working on director Kawalerowicz' *Meeting Over Atlantic,* which was shot with an Arri BL-3 in 22 days on a transatlantic ocean voyage. "Jerzy was always thinking about the way a film was going to be cut later as

Directed by Sergio M. Castilla
Produced by Sergio M. Castilla and Andrew Louca
Director of photography, Irek Hartowicz

he filmed it," says Hartowicz. "We were constantly discussing the angles and how they would work in the editing."

For *Girl in the Watermelon,* Hartowicz worked Eastern-European style with writer/director Sergio Castilla, who allowed the cinematographer maximum involvement. "In most of my filming experiences in Europe," Hartowicz explains, "the directors gave me many opportunities to become creatively involved in the film, not just as a cameraman but in terms of choosing locations, and casting. In Poland, the cinematographer generally helps the director write the shooting script. Together they choose angles, frames, the composition of each shot. I don't find that same approach to filmmaking in America. Here, cinematographers are hired mainly to do one thing — shoot the picture."

The Girl in the Watermelon is a romantic comedy about Samantha (Meredith Scott Lynn), a 17-year-old Brooklyn girl in search of her father. Samantha's quest is complicated by the presence of three possible candidates. There's Sam Myerofsky, the man she's always believed was her father, who died before she was born. Or Eddie Alvarez, the Latin horn player from Spanish Harlem. Or Robert Willbarth, the handsome gallery owner, who shares a palatial loft with his male lover and his butler. Samantha is so busy trying to find and then choose a father, and so angry when her mother decides to remarry, that she ignores Matt, the young performance artist/magician who loves her.

Throughout the movie, Samantha's goldfish and confidante, Dr. Goldstein, appears in her dreams to give her advice, a touch of surrealism that Hartowicz loved when he read the script. The cinematographer also liked the idea of a rebellious teenaged heroine. "I was attracted to the script for its imaginative potential, and also because my own daughter Sylvia is 16. I understand the problems of that age group."

Hartowicz was on location in Manila shooting *Looking for America* when Castillas, who was familiar with the cinematographer's work, sent him the script. When he met Castillas, and the director explained his approach to the project — "Sergio wanted to create the film from a visual standpoint, with rich colors" — Hartowicz became even more enthused and accepted the job at once.

The film was shot during the summer in Brooklyn and New York. Castilla and Hartowicz decided the film should be warm and rich, using bright primary colors, mainly gold, red and a mix of yellow. "Manhattan in the summer is hot, and we wanted to get across the feeling of heat outdoors." Colors were also used to accentuate and distinguish various neighborhoods. Hartowicz lit a singing and dancing scene in Eddie Alvarez' Spanish Harlem neighborhood to feel "a little bit Caribbean, to give a flavor of the camaraderie of the neighborhood."

A full lighting package was too expensive for the six-week shoot, but Hartowicz is used to getting the shots he needs with the gear at hand. He would have liked to have used Dedo lights, KinoFlos, or Chimera lights for soft, directional light, but made do with a basic tungsten package of small units including an inky, zip lights, and

Opposite: ***Samantha (Meridith Scott Lynn) consults with her bowl-bound confidante, Dr. Goldstein (frame enlargement from film).*** **This page, top:** ***The Latin horn player (Eddie Alvarez) rejoices over the birth of his daughter (frame enlargement from film).*** **Below:** ***Irek Hartowicz (seated behind camera) composes a shot of Matt (James Spencer-Thierree), the young performance artist/magician who loves the film's heroine.***

Photos by Jennifer Atkins and Boris Curatolo, courtesy of Mommy & Daddy Productions.

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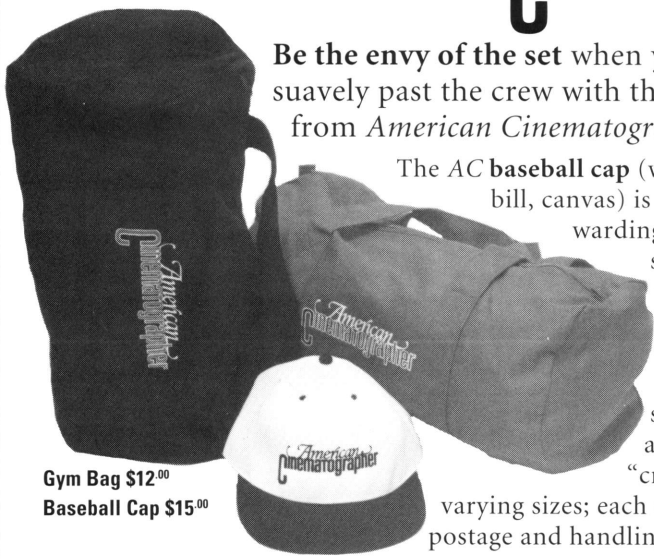

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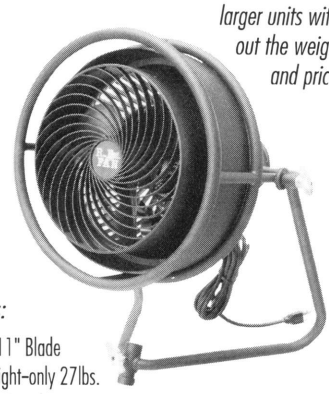

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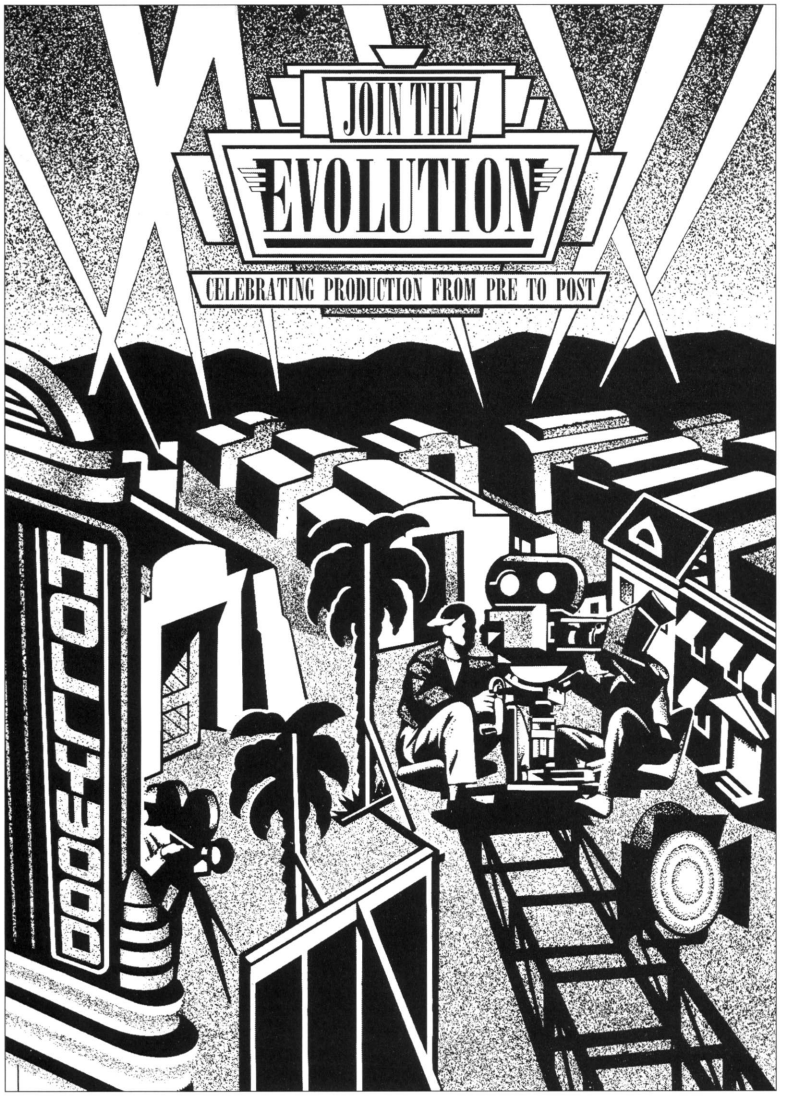
babies. He had five HMIs, a 575-watt, a 1200 Par light, two 2500 fresnels and a 6K. The HMIs weren't in the best condition, so Hartowicz used correction gels to compensate for plus and minus greens, as well as different gradations of amber 85. "Most of them were off-balance, and we had to measure before we shot each scene. The heat didn't help either," he adds. "When the whole fixture and the cables would get hot, the color temperature would increase. If we didn't measure the temperature often, we'd never have maintained the correct balance."

Hartowicz was pleased to be able to work on an Arriflex again, especially a BL-4. The film's budget allowed for a BL-3, but when that model wasn't available in time for the shoot, the rental company offered a free upgrade. "The BL-4 is a very handy camera," says Hartowicz, who finished the film on a BL-3 when one became available, "and it was wonderful, too."

In discussing lenses prior to the shoot, Castilla and Hartowicz "definitely agreed that we don't like zooming, and we never used the zoom lens," says Hartowicz. "We only used the prime lens." Hartowicz shot most of the movie using the 50mm Zeiss Superspeed; from time to time, for close-ups or wider shots, he'd use a 35mm. "I tried to maintain the same look in terms of perspective so there wasn't a lot of jumping around from different angles from cut to cut."

Hartowicz, who learned to shoot on Eastman Kodak film and hadn't done much experimenting with different stocks, did scene-by-scene tests on Fuji film at Castilla's suggestion. "I thought, why not try something different? I like new things. After making comparisons, I found I was very satisfied with Fuji," he says. "The color is warm and well-balanced." But most of all, he liked the way the Fuji stock



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warmed actress Lynn's Mediterranean skin tones.

The cinematographer chose Fuji's 64D for daylight scenes (exteriors made up about 30 percent of the film). "Its fine grain is good for bright outside light, and I didn't need an 85 filter," he explains. The highspeed 250D, another fine-grain film, was better for mixed lighting conditions, both inside and out. At night, Hartowicz used highspeed 500, and in one black & white dream scene, he chose Kodak's Plus X rated for 60 ASA. "Altogether, they match well when you cut between them because of the deep blacks and fine grain." Although DuArt, the New York lab that processed the prints, doesn't work extensively with Fuji, Hartowicz notes, "they were very accommodating and cooperative about getting me good dailies."

To stay on schedule and keep the film moving along, Hartowicz tried to move the actors rather than the camera for motion and different angles. "One of the differences between shooting a low-budget independent film and a major studio movie is that you don't necessarily have to compromise, but you do have to find just the right way to achieve the look you want. You learn to create interesting shots through framing, and by moving the actor around when it's too complicated, expensive or time-consuming to move the camera around."

To shoot a magic performance in which Samantha's admirer Matt submerges himself in a large, plexiglass tank in a park, "I had to do something interesting to light the tank on that flat, sunny day, in a way that would make it visually exciting," says Hartowicz. He asked Castilla if he could put a large mirror on the bottom of the tank to reflect the light and give it a little flicker. He also employed the flicker factor in the next scene, when Matt is out of the tank and spraying

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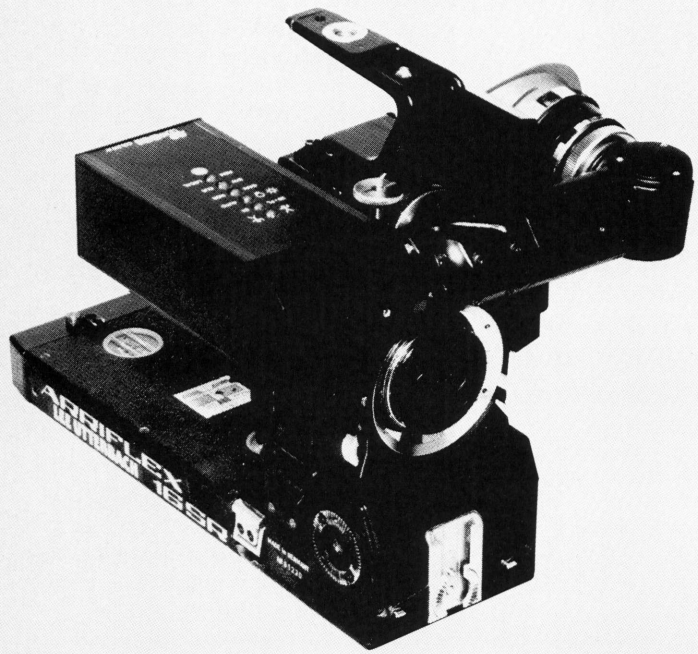

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Samantha with a hose; the lights reflect on her arms and body and lend a spark of emotion to the scene. Hartowicz also used a Weaver head to rotate the camera "and create a slightly surreal image. Sometimes you can use simple, inexpensive tools to get a very intriguing look."

The use of water, reflections and flicker continued in Samantha's relationship with her fishbowl-bound therapist, Dr. Goldstein. Hartowicz had a hard time shooting scenes of Samantha talking to her fish "because the shape of the goldfish bowl was such that there was always reflection." He top-lit the aquarium and put shiny stones at the bottom for the same kind of flicker he'd gotten from the mirror in Matt's tank. When Samantha talks to her fish in close-ups, the goldfish bowl reflects on her face. Hartowicz shot the reflection scene in slow-motion to maximize the dreamlike effect, "which was very beautiful, because the fish was very colorful. It took us weeks to cast a fish with just the right red saturated color, a fish that looked to us like a Dr. Goldstein."

For Samantha's dream sequences, "We had to try and find a way to shoot them in a way that would bring out the girl's character," explains Hartowicz. "Sergio and I both like Buñuel's films, and Sergio had strong feelings about going in a surreal direction for the dream scenes. Our big concern was how to do it. We spent days discussing the best approach."

For a dream in which Samantha lies naked inside a watermelon, the team "built a plastic watermelon interior, and I used a half coral filter on the camera to match Meredith's skin tone." The coral filter, used to achieve a warmer picture, was the only filter employed in the film by the director of photography, who preferred the natural diffusion provided by the humid New York summer air. The scene

was framed to hide everything except the actress, the red plastic melon and the seeds. "We didn't even need red gels; the coral filter was enough with the Fuji stock," says Hartowicz. The edges of the frame were distorted in post for a dreamy look. "That saved us a lot in terms of special effects."

In another dream, Matt climbs through Samantha's window and kisses her as she sleeps, after which they both roll to the floor. Hartowicz shot the whole sequence in one take in slow-motion. At the crucial moment, when Samantha wakes up on the floor and finds herself holding a pillow, he changed to regular speed. "These are the kinds of things you learn to do, to get the shots you need with whatever you have," he explains.

After working on *Girl in the Watermelon*, Hartowicz went straight to another independent film, *Twin Sitters*. An action film, Sitters had a bigger budget that gave the cinematographer access to helicopters, explosives, five cameras and a second unit. But while he enjoys such bells and whistles, Hartowicz rates his jobs more by the quality of the experience than by the quality of the gear. "I love independent filmmaking. Even if I'm very busy, I want to make one small, independent film a year. It's a completely different kind of pressure. You create very different images. Bigger productions are more disciplined. On a small independent film, you make your own discipline. You turn your team into a family. And everyone is working hard not just because they care about money, but because they're concerned with good filmmaking. That's why I'll always find time to make these kinds of films."

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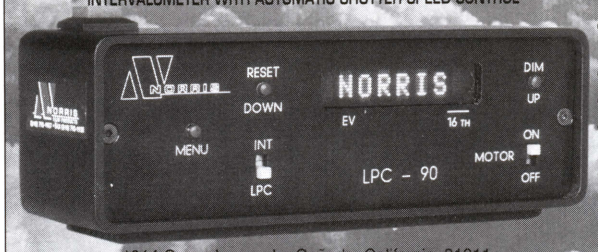

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Klushantsev: Russia's Wizard of *Fantastika*

Part 1 of 2 examines the technical and political struggles of a special-effects pioneer.

by Lynn Barker and Robert Skotak

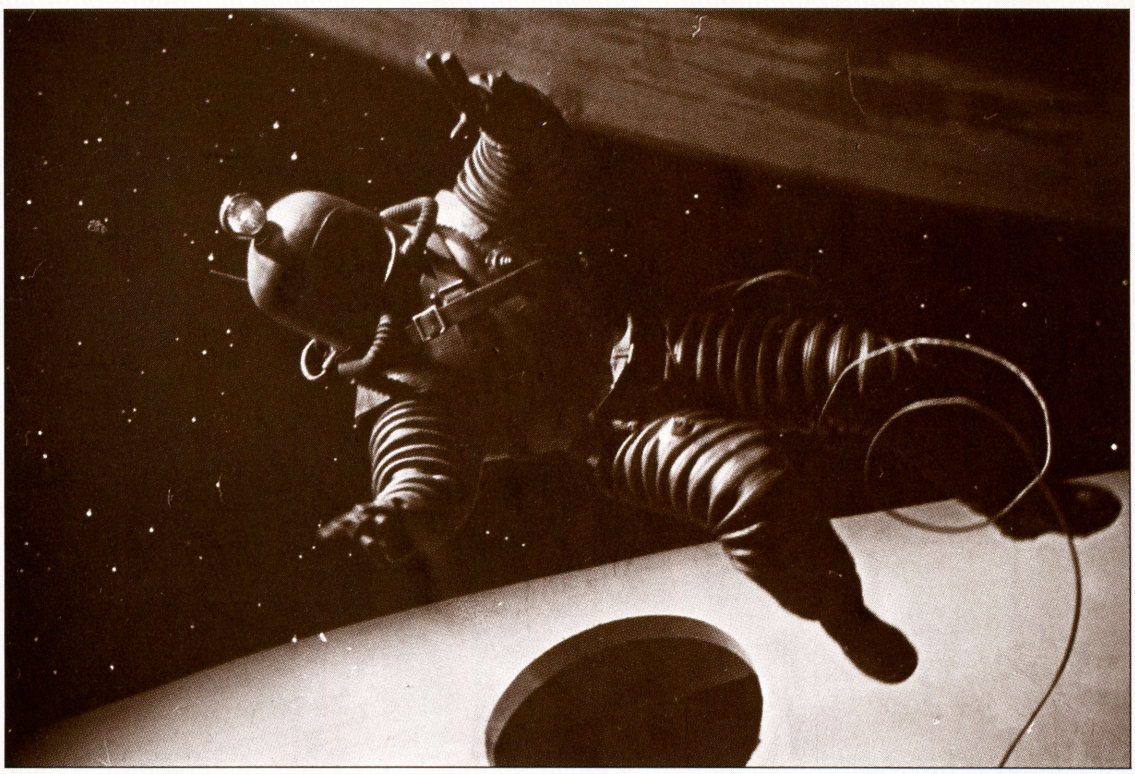
Translations by Gregory Wain and Buck Shomo

During a recent visit to Russia, Robert Skotak, Academy Award-winning visual effects director and head of 4 - Ward Productions, Inc., interviewed the pioneer Russian effects director Pavel Klushantsev.

When we think of Soviet or Russian cinema, we immediately recall tiers of swords raised against Teutonic invaders in officially sanctioned films like *Alexander Nevsky;* the slaughter of humanity on the Odessa steps and the birth of stylish, modern editing in *Battleship Potemkin;* the sheer size of Sergei Bondarchuk's *War and Peace;* the emotional sweetness of *Moscow Does Not Believe in Tears;* or the mesmerizing solemnity of Tarkovsky's *Andrei Rublev* and *Solaris.* Less clearly remembered is the modest list of Russia's visually compelling, special effects-laden films of the fantastic — or *fantastika.* A list of Russian films of fantasy, horror or science-fiction is a list of films resisted by government sponsors due to their very subject matter. It includes such titles as *Cosmic Journey* (1935), *Aelita* (1924), *Illya Muromets* (1960), *A Dream Comes True* (1963), *Andromeda Nebula* (1967) and *To the Stars by Hard Ways* (1982).

Road to the Stars (1957), a film that documents the history of space science and fictionally portrays a journey to the moon, and *Planet of Storms* (1962), a feature about the geological and biological dangers encountered by a group of cosmonauts on the planet Venus, are two exceptional specimens of Russian film *fantastika.* They were produced more than three decades ago under grueling conditions. Their creator, Pavel Vladimirovich Klushantsev, simultaneously bucked an uncooperative system and tackled the difficult subject of the visually "impossible."

Klushantsev is also no stranger to chal-



Photos courtesy of Robert Skotak and Pavel Klushantsev

lenges of a technical nature. In the winter of 1956, the filmmaker found himself shooting scenes in a narrow bay on the Baltic Sea for the film *Road to the Stars*. With the wind whipping across the water, Klushantsev and his crew attempted to create a convincing shot of a spacecraft landing on the waves. The "spaceship" (a lightweight model built of thick waterproof fabric inflated with air) was suspended from cliffs on either side of the bay by a rope strung through ringlets on the craft's top. The crew's job was to slide the model down the rope to simulate the landing, a task that involved repeated adjustments amid the freezing water and wind. Incidents like this demonstrate the dedication and love of craft that typified the 45-year career of the Russian film pioneer.

Now in his 80s, Klushantsev has worked as cameraman, special-effects wizard, inventor, artist, animator, director, producer and screenwriter on a wide variety of film shorts and on the impressive science-fiction feature *Planet of Storms* (1961). Like international film magicians George Melies, William Cameron Menzies, Ray Harryhausen and George Pal, Klushantsev honed his abilities as a hands-on artist, mechanical expert and inventor and applied them to cinema, resulting in dramatic and often dazzling illusions.

With such a long history of achievements, why doesn't his name conjure memories of the effects-laden films he brought to life? Like many of his Russian filmmaking colleagues, Klushantsev fell victim to the Cold War. Most of his film shorts, especially impressive for their innovative design, photography and special effects, were never shown in the U.S. despite winning numerous international prizes. Footage from *Planet of Storms*, his sole feature, was purchased, edited, "Americanized" and inserted into several barely memorable "B" films. To add insult to injury, some of Klushantsev's inventive and ambitious effects techniques have been falsely credited to American filmmakers who developed similar methods or designs years later. Even so, this tenacious pioneer struggled and prevailed against the impossible odds of poverty and soul-crunching government control and censorship to produce a body of work that was, in his words, "founded on veracious fantasy. . . always to tell about the good and happy future of a wise, intelligent and friendly Humanity working for mutual good."

Klushantsev was born in Leningrad (then called Petrograd) in 1910. His father was a doctor; his mother, a housewife. "When I was seven years old, the Revolution took place. My father lost his job, and my mother took a job with very little pay; my childhood was spent in poverty. I was determined to become a mechanical engineer, and submitted an application to the Leningrad Technological Institute, but I was rejected. I came from the intelligentsia and [the Party] needed to create an engineer class from workers and peasantry. I enrolled in the Photo-Cinema-Technical Secondary School and finished in 1930 with a specialty as cameraman."

Opposite: *The 1964 short* Luna *featured a fancifully designed base and space survival gear in elaborate perspective shots such as this.* This page: *Pavel Klushantsev in 1934, working as a camera operator.*

The combination of his love of technical tinkering with newfound cinematographic skills enabled Klushantsev to gain a reputation as a problem solver: "Doing something that no one else was able to do allowed me to reach a stable position in cinematography, [but right away] my passion for innovation drew indignation from the authorities. I complicated their work. They resisted and created a great number of obstacles for me."

The accomplishments of Klushantsev and those of his colleagues become all the more impressive when placed in the context of these very obstacles. From the dawn of their film industry, Russian filmmakers ran into a labyrinth of technical, social and governmental barriers that proved almost insurmountable — barriers that epitomized and scarred the history of Russian film *fantastika*. From the time before Protozanov's silent classic *Aelita* (1924), through Andrei Tarkovsky's well-received *Solaris* (1972) and up to the present, years of social upheaval and struggle produced a core of remarkable film artisans. But through it all, the key strengths of Russian filmmakers — creativity and innovation — were frequently ignored or discouraged if the subject matter did not suit the needs of the "Center" (Moscow).

The story of pioneer Leo Kuleshov illustrates how early and how profoundly the problems of the Russian film industry had become entrenched. Inspired by the perseverance of his parents — his father was a starving artist, his mother a teacher — Kuleshov overcame the odds and directed his first picture, *The Project of Engineer Prite*, in 1917 at age 18. It was among the first Russian pictures to employ editing, close-ups and rapid,

For the 1946 featurette* Northern Lights, *Klushantsev created magical images to illustrate the principle behind the Aurora Borealis.

dynamic combinations of shots. His experiments during filming included the "Kuleshov Effect," the first attempt at editing various locations to make them appear as one. Yet *Engineer Prite* and subsequent films failed to win any governmental support. After the Revolution, Kuleshov took part in the organization of the First National Film School, but this too went unnoticed. Instead of being rewarded for his efforts, he found himself plagued by a lack of funds for even the most basic technical equipment. He also faced the constant ridicule of studio bosses who preferred Sergei Eisenstein's proletarian revolutionary epics to his more emotional, American-style melodramas.

With the onset of Stalinism (1934-1953) came an even more severe form of censorship, as illustrated by the treatment of talented stop-motion animator Fyodor Krasni. During the filming of *Cosmic Journey,* Krasni's name, along with those of all the other crew members, was submitted to Stalin's office for official approval. An examination of the original script revealed that his name had been crossed out by Stalin's staff, who had added a notation dictating that he was to receive no credit on *Cosmic Journey* or any other film. Somehow, he had provoked the wrath of the Party and had been labeled a "fantasist" who should have turned his talents to "social realism." As a result, he became a "non-person."

Similar fates befell filmmakers Mikhail Koryukov *(The Heavens Call, Mysterious Island, A Dream Comes True)* and Alexander L. Ptushko *(The New Gulliver, The Stone Flower, Sadko, Illya Muromets),* who also struggled to retain artistic freedom against impossible odds. When Koryukov realized that science-fiction films, with their innate special visual requirements, would provide work for a multitude of special-effects artists, he and his colleagues wrote a letter urging an increase in fantastic film production. It was signed by many high-level officials, with the exception of Stalin himself. *Pravda* refused to publish the letter, but *Izvestia* did. In Koryukov's words, "The day after the letter was published, the chairman of our committee at the studio sent for me and asked, 'Who wrote this letter?' 'I did,' I said. Within 24 hours I had to leave Moscow." He was banished from his home and was never allowed to return.

Ptushko, whose fantastic imagination lent itself best to fantasy tales of epic heroes, fell victim to the system in 1950, after Stalin issued an edict demanding that fewer films be made each year. Given no choice, Ptushko was assigned to finish a film that contained no fantasy elements at all — the pedestrian *Tri Vestrechi (The Encounters),* a jumbled, prosaic story of soldiers adapting to demobilization. Even his masterpiece, *Sadko* (1952), had to be compromised in order to become one of only five Stalin-approved films that year; Ptushko was forced to present a thinly-veiled story about a God-like

leader who could control even the elements in order to aid the "poor, unhappy masses."

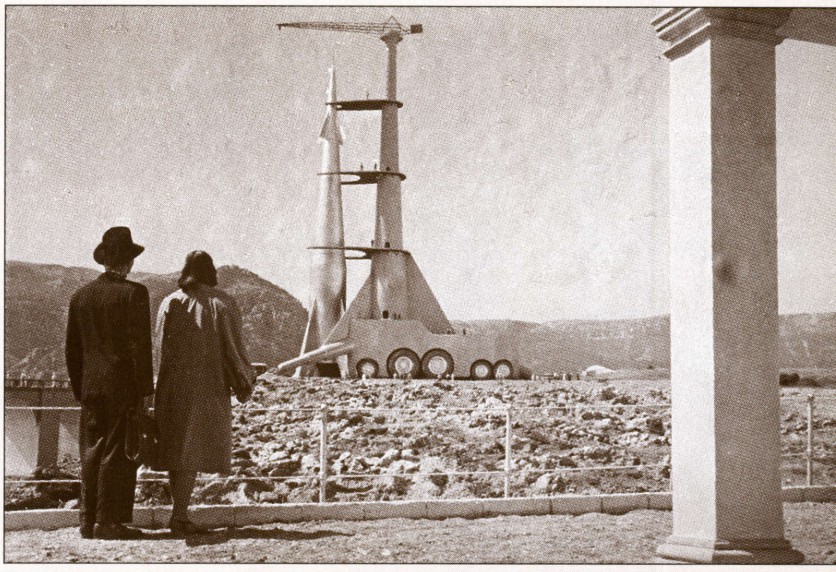
Additional problems for Russian filmmakers can be blamed on the Soviet film industry's restrictive, ponderous and divisive system. Klushantsev explained, "In the Soviet Union, cinematography was divided into four fields: artistic cinematography (with a plot and dramatic performances); animated and popular science cinema (educational films for schools and other training institutions); and films which report to the audience on the status of science and technology." Each specialty was assigned its own studios. "Occasionally, as an exception, artistic films were also made in the popular science studios, but that wasn't encouraged."

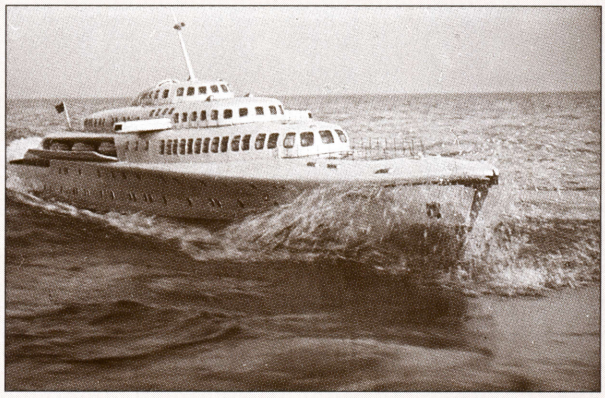
Klushantsev began and spent most of his career making popular science films. His smart solutions to mechanical and visual effects challenges moved him quickly from cameraman to director. In 1938, he organized a small workshop for special effects at Lennauchfilm (Lensciencefilm) Studio where he continued his "tinkering": "I often filmed from airplanes. In those days, airplanes had open cockpits and we had to work in the breeze, which necessitated designs for stronger cameras. I filmed underwater in 1938, before there were aqualungs or scuba divers. I built an apparatus including a diver's helmet [so] I could work hands-free."

During 1943, Klushantsev filmed military instructional films in the city of Novosibirsk, located in the center of Siberia. In the intervals between pictures, he experimented. "We still didn't have color film. We only knew how to use a primitive two-color method using red- and blue-sensitive films. The two negatives were printed on a positive film which was developed on both sides. It came out as a color positive, but the color transmission was poor." Klushantsev decided to take the process further on his own. "I adapted a camera for two reels of film. I put in an infrared film and used positive in exchange for the blue sensitive. I found a color representation of a flower in a book and filmed it with the two combined films. I printed a positive from each film and intensifed the positives in the hut where I lived with my wife and daughter. Then I stuck the pieces together during editing. The producer was astonished." Everyone was amazed when he submitted his film to the Ministry. Suddenly, after the gray sequences, a flower in all of its beauty unexpectedly blazed onto the screen. Klushantsev, in a far-off Siberian hut, had produced "color film," which they didn't even have in Moscow!

After the war, Klushantsev produced his first film and began to explore special effects full-time. The black & white film *Northern Lights* (1946) impressed superiors and paved the way for future efforts. Working with cameraman and colleague Anatolii Lavrent'yev, a long-time friend from technical school, Klushantsev set out to, in his words, "describe for the viewers the Northern Lights in all of their forms. A spotlight lit up a white paper 'sky' from below via a mirror on the floor using a sliding light at a very acute angle. Before falling on the paper, that light shined through two corrugated plates of glass that were moving towards each other, and so refracted into iridescent streams of light. Then it would pass by a cylinder with cotton balls stuck to it. The cotton balls cast shadows on the 'sky,' breaking up the rays of light. The cylinder turned and the contours of the radiance changed. All of this activity was accomplished with one electric motor, via a system of cords. There were pinpricks in the paper sky which had a tracing paper pattern behind it, backlit. Those were the stars. A frame with threads stretched across it slowly moved between the pattern and the 'sky.' When the threads covered the pinpricks, the stars twinkled."

Klushantsev's film *Meteors* (1948) was his first outing as sole screenwriter and won an award at the Venice Film Festival. Another instructional film, it dazzled audiences with its authentic-looking flying fireballs (spotlights sliding along a line) rocketing across a Russian winter sky. The film also introduced another technical experiment: "It was





Above: ***Large-scale miniatures photographed by natural sunlight were often used by Klushantsev to create impressive perspective shots, such as this scene from*** **Road to the Stars** ***(1957).*** **Left:** ***For 1954's*** **The Secret of the Matter,** ***Klushantsev and his crew engineered a futuristic, nuclear-powered ocean liner capable of riding the ocean waves or submerging beneath them like a submarine.***

the first time Lavrent'yev and I utilized the 'luminostaged' method of shooting, which was later patented in his name. We had to show the solar system with the movement of the planets and orbital path of meteors. Animation wouldn't have worked here, since all of the action had to be of a floating nature and animation only worked for sharp, quick action." At the same time, the movement of the planets demanded a mechanism with turning axes, gliding orbits, et cetera. "We colored the celestial bodies with paint and illuminated them with ultraviolet light [blacklight]. On film it appears that we filmed only those celestial bodies, and all of the [unlit] mechanisms remain invisible."

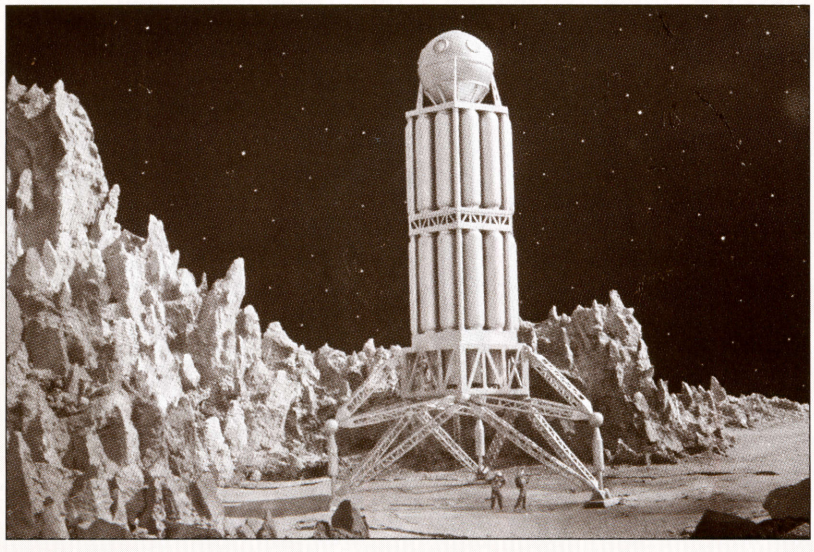
By 1950, interest in space exploration was accelerating — a phenomenon due, in part, to classic films in the new genre such as George Pal's *Destination Moon*. While *Moon* played on American screens, Klushantsev was visualizing the creation of the galaxy for the popular science film *The Universe*. In it he combined the luminostaged method with stop-motion — the latter technique's first use in a color film. The apparatus he invented to track the movements of the heavenly bodies was so precise that "we set everything up, turned on the equipment, left to eat dinner and returned when the sequence was shot." Again, the cold disregard of his brilliance by some superiors was evident. "All of those mechanisms which I invented, drew, and ordered from factories no longer exist," Klushantsev said. "They were all thrown out as useless." Once again, however, the film won several international awards.

Klushantsev continued his exploration of scientific phenomena by making *The Secret of the Matter* in 1955. That film proved to be the launching pad for his newfound fascination with speculative fantasy. "At the end of the film, we wanted to talk about the perspectives that inexhaustible supplies of [atomic] energy open to man. I did that and, for the first time, became aware of all the fascination the future demonstrated." [It should be noted that "fantasy" in Russian space films was always "a scientifically grounded prognosis of the near future." This excluded the appearance of the implausible or threatening monsters from outer space so common in American films of the era. George Pal's *Conquest of Space* (1954) was a notable exception. Russian filmmakers strove to hold interest without relying on horror or shock.]

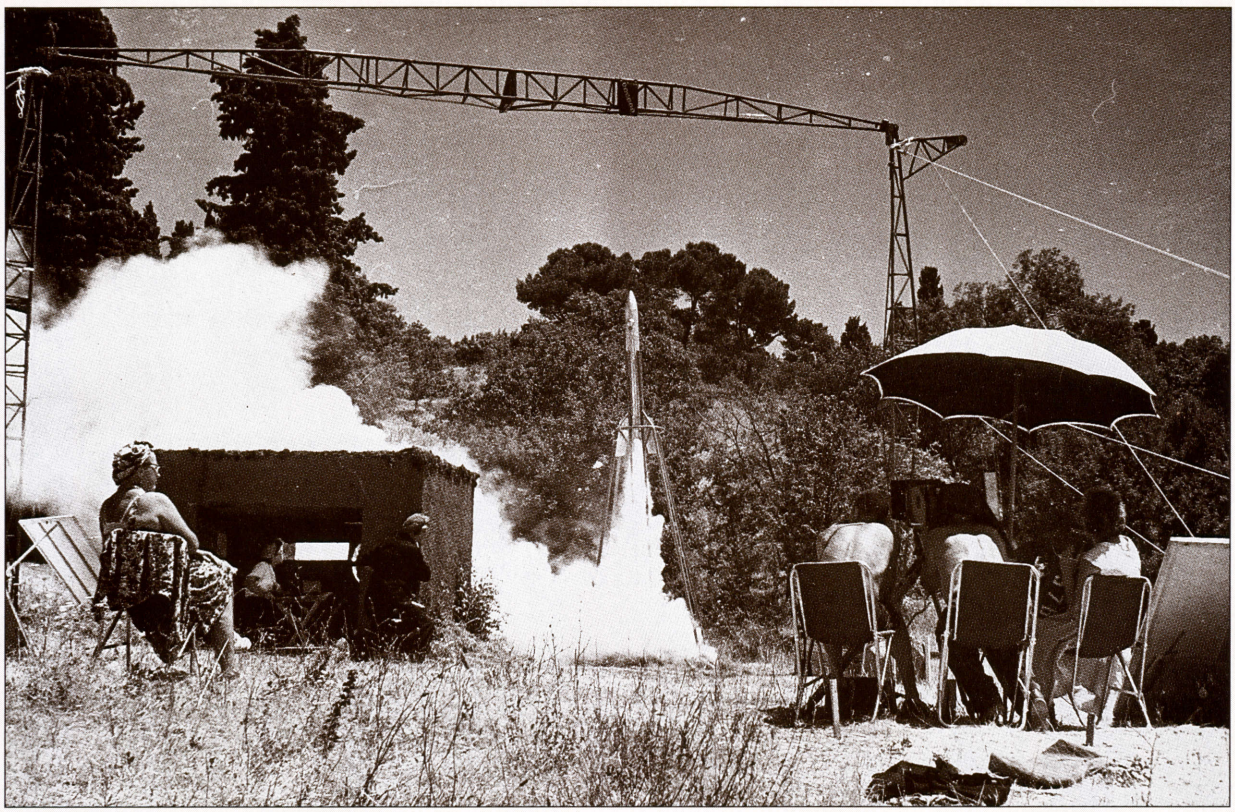
The Secret of the Matter featured an impressive ten-meter model of an atomic-powered ocean liner able to travel both on and under the ocean's surface. It was filmed in action on the Black Sea, but not without incident: "We used two ships," Klushantsev explained. "One towed the model, the other followed. Lavrent'yev and I sat with the camera on a beam which was mounted on the outer side of the ship's hull. We hung about half a meter from the water's surface. We submerged the model by releasing the air from the tanks that held it afloat, and raised it by inflating them. We were just getting out to open water when we saw a big wave. We turned back for shore. During the turn we started to roll over. Lavrent'yev and I had our heads dunked a meter and a half in the water. After half a minute, when the ship righted itself, we surfaced and managed to get a breath. We hung on and saved the camera — but lost the film."

On October 4, 1957, Sputnik was launched. It was the proverbial shot heard round the world, and ushered in the space race. The Soviet Union was first off the starting line; with the making of the internationally lauded *The Road to the Stars*, which included a realistic exploration of man's first orbital journey, Klushantsev's career was also about to get a rocket boost. As Klushantsev recalled, the ride had actually started three years before: "The writer-engineer Lyapunov had become interested in cosmonautics. He had met Konstantin Tsiolkovski, a pioneer of rocketry and space sciences. At that time, no one knew anything about Korolyev, the main construction engineer of Soviet space rockets. Work in that area was top secret. Lyapunov met one of Korolyev's closest companions, who helped him with theory, and he managed to write the book *The Thorny Path To the Stars*. After that, he was set afire with the dream of a film on the theme of the gradual expansion of man in space.

"By 1955, he had already written a screenplay in which he had set forth the theory of rocket technology and the possibilities it opened for humanity in the next decades. But no one wanted the screenplay! It was stupid to waste money on some unnecessary fan-



The climactic moment in* Road to the Stars *featured cosmonauts and a Chesley Bonestell-like lunar craft landing on the moon. The actors and the landing leg behind them are in the distance; the ship, sky and landscape are foreground miniatures.



***Klushantsev's crew created this rig to accomplish realistic rocket launches for* Road to the Stars.**

tasy, they said. Several other producers also failed to back Lyapunov due to their fear of the technical difficulties involved in the production of such a film.

"Lyapunov found out about me and came to Leningrad. I clearly understood that the theme of his screenplay would give me the possibility to use the grandest scale of special effects, invention, and resourcefulness ever."

The film's "stellar abyss" was created by hanging a huge screen, made of wooden frames covered with a sheet of steel, from the ceiling of the stage. Small holes were punched in the steel, and tiny incandescent lights were soldered into the holes. Their reddish tint was covered by a coat of blue lacquer. Lights of various strengths corresponded to the brilliance of different stars in familiar constellations, and various sections of the sky could be lit independently.

That was a simple problem to solve. Not so simple were rockets and weightlessness. "We had to simulate the take-off of a rocket with cosmonauts," Klushantsev noted. "No one knew how that rocket would look. No one knew what a launchpad would look like. We got in touch with the Leningrad Institute for Aviation Instrument Making. The dean gathered his most gifted senior students and gave them the task of projecting such concepts as the rockets, launch equipment, space craft, orbital stations and their interiors. Thus it wasn't just irresponsible fantasy, but a project founded in technology. The students got carried away and turned out a whole line of sketches. We selected the most effective and they became the basis for all of our models and set decorations."

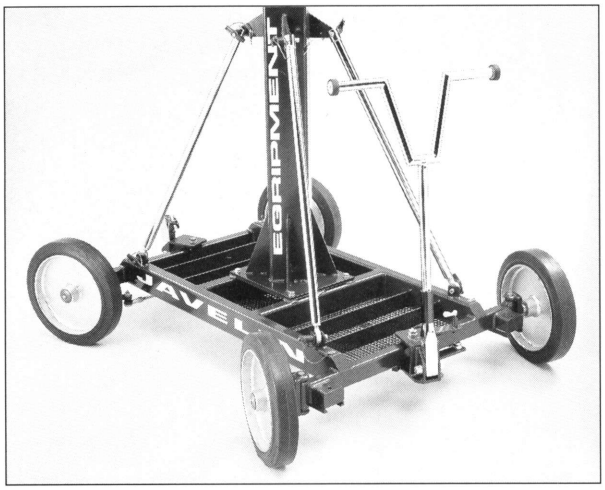
Launching the model rockets required gadgetry on a huge scale: "We constructed a portable collapsable girder in the form of the Greek letter 'pi' — two poles and a crossbeam with a system of pulleys. The rocket hung from two thick steel threads. The lines were threaded through the pulleys, and around one of the poles hung a counterweight. Pyrotechnic cartridges were placed on the lower part of the rocket. With cartridges, the rocket weighed just a little bit more than the counterweight. That way it stood calmly vertical on the ground. The poles and crossbeam were out of the way of the camera. When the electric current ignited the pyrocartridges, flames appeared under the rocket and it was shrouded in smoke. After a couple of seconds, it began to get lighter from the burning of the chemicals and the counterweights began to pull. The rocket tore off from the Earth, and, gaining speed, flew upward. When the weight hit the ground and the rocket hit the crossbeam, everything came to a halt. The method proved successful and we employed it in all of our space films." ❧

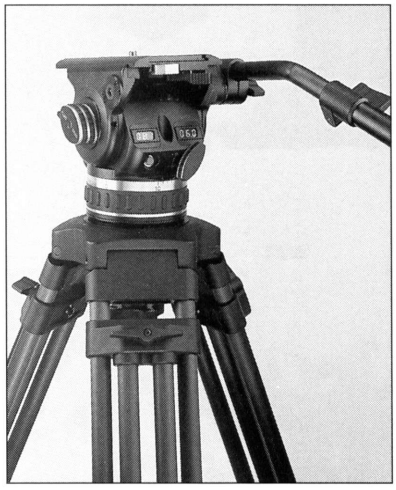
(To be concluded in the next issue.)

Special thanks to: Pavel Klushantsev, Alexander Nadyezhin, Valentina Malek'Hyeva, Vladimir Antropov, Gosfilmofond, Konstantin Zagorsky, Alexander Kazantsev, Mikhail Koryukov, and the Russian and American Cultural Trade Association.

New Products

compiled by Marji Rhea





Clockwise from top left: ***The Egripment Javelin; Cartoni's Delta Fluid Head; Century Precision Optics' Compact Low-Angle Prism.***

Crane Arm

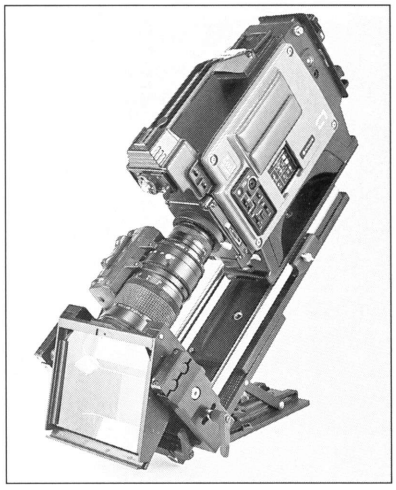
Egripment's latest crane, the Javelin, has been specially designed for use with remote camera heads and is based on the company's modular system. The Javelin has seven possible length variations, and even at the longest extension will support 100kg./220 lbs. Features include a stabilizing bar system inside the crane arm for tight shots; tightening grips at the end of each stabilizing bar; a counterweight bucket supported almost at its center of gravity; a wide-base dolly with four-wheel steering on both sides of the dolly; an extra riser for the main column; and handgrips on the front and back sides.

Egripment now offers a lifetime guarantee with their products. Subject to the condition of normal use and treatment of the product as described in the instruction manuals, Egripment guarantees the repair or replacement of any part of the equipment which is damaged due to a manufacturing failure.

For information: Egripment, 7625 Hayvenhurst Ave., Unit 27, Van Nuys, CA 91406.

Fluid and Dutch Heads

Cartoni's new Delta Fluid Head is capable of holding up to 42 lbs., and is ideal for dockable camcorders with large battery packs and fully-rigged EFP cameras. The unit also features infinitely variable counterbalancing to accommodate offset payloads such as long lenses and top-mounted viewfinders. The Delta has an illuminated bubble level and two easy-to-read LED displays that indicate precise counterbalance and tilt drag values, even in night exteriors or on darkened sets. The company's patented fluid damping modules offer 10 basic and more than 40 intermediate tension settings for both pan and tilt modes, ensuring consistent drag and smooth camera movement throughout the range. The Delta comes equipped with a 100mm bowl, sliding base plate, European-style quick-release with easy-access safety lock, and easy-to-read engravings.



Cartoni's new C20S Dutch Head is designed for 16mm or video shooting and accommodates cameras weighing up to 61 lbs. It interfaces directly with popular quick-release heads like the Cartoni C20S. The system features eight-step counterbalancing and Cartoni's fluid damping system for fully-adjustable, repeatable drag. The Dutch also includes a frictionless sliding base plate and locking quick-release plate. For Dutch tilts with cameras weighing up to 121 lbs., Cartoni offers the C40S Dutch Head.

For information: Cartoni, 960 Enchanted Way, Unit 104, Simi Valley, CA 93065, (805) 520-6086, (800) 845-6619, FAX (805) 520-6949.

Low-Angle Prism

Century Precision Optics has introduced its Compact Low-Angle Prism for capturing extreme low-angle and specialty shots, primarily for use with 16mm, Super 16 and video cameras. (The unit also interfaces with various 35mm cine cameras.) The prism provides a point of view two inches above the floor and easily inverts for dramatic high-angle shots. The prism is a smaller, lightweight version of Century's Super Wide Low-Angle Prism; the smaller prism weighs under 7 lbs. and measures 5.25" X 8.5" wide X 7.5" high.

A high-density glass element specially coated to minimize light loss results in crisp, clear and distortion-free images. The unit's rear housing accom-

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Once the exception, low light filming is now the rule. Even when shooting at T2 or less, the viewfinder on the Arriflex 16SR 3 won't strain your eyes or your imagination. It delivers the largest, sharpest, brightest image of any 16mm camera, regardless of stop or format. In fact, the viewfinder on the SR 3 is 25% brighter than the SR 2, and that was *already* brighter than the competition. The SR 3 comes equipped with Arriglow, which provides precise, illuminated frameline markings, in all shooting environments, daylight or midnight.

MORE CONTROL

The offset pl-mount makes it easy for you to switch from standard 16mm to Super 16mm in the field. SMPTE time code and flicker-reduced CCD video are integral to the 16SR 3's design, allowing you access to the latest in electronic post-production. Many of the new electronic features of the Arriflex 535, such as programmable on-board speed changes are included, giving you more creative options than ever before.

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When you spend all day looking through a viewfinder, you deserve the best working conditions possible. Your eyes will appreciate the brighter finder image and the two-time magnifier built into the extender for critical focus adjustments. Warning indications in the finder for asynchronous speed and battery status are displayed instantly.
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Improving on the industry standard workhorse SR 2, the SR 3 viewfinder pivots to either side of the camera for comfortable filming and non-restrictive camera placement. Even when equipped with our high quality color video assist, the viewfinder still pivots 120° from right to left, rotates 360° parallel to the camera body, and swings out 25°. In short, the most adjustable 16mm viewfinder currently available.

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modates two 4" X 4" filter holders, and a clear protective filter is mounted at the front.

Also new from Century Precision Optics is the Angenieux 11.5-138mm T2.3 zoom lens, a 12X zoom ideal for Super 16 shooting. Suited for multi-camera studio production, the lens is compatible with the full-sized 5 X 6 Arriflex studio matte box and 4.5" accessories. The lens features large, bright footage engravings and integral follow focus and zoom gears.

For close-up work in Super 16, the Angenieux 12 X 11.5 provides a minimum object distance of only five feet. When shooting in standard 16mm, the MOD is three feet.

For information: Century Precision Optics, 10713 Burbank Blvd., North Hollywood, CA 91601, (818) 766-3715, FAX (818) 505-9865.

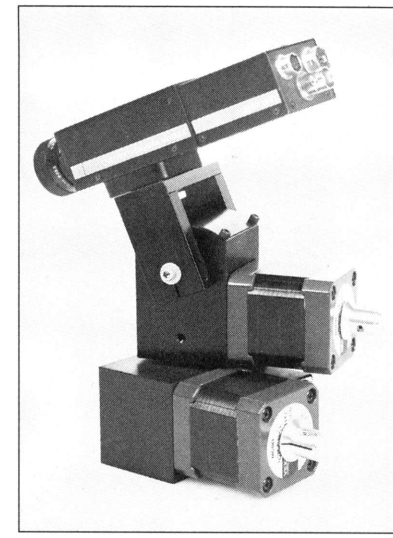
Lens Controller

Band Pro's AC Film/Video Technik Genio two- or three-channel precision lens control is ideal for focus, iris and/or zoom control on video and film lenses when used with Steadicam or other remote applications. Genio may be used in hard-wired or wireless configurations, and sports an ergonomically-designed X-style transmitter. The unit is compatible with analog DC motor encoders such as the Heden, and electrical parameters of the motor and mechanical backlash are stored digitally to guarantee accurate positioning. The compact magenta-anodized receiver features input connectors for two channels, camera ON/OFF and a multi-position antenna. The unit easily connects onto Steadicam.

For information: Band Pro Film/Video, 425 North Moss St., Burbank, CA 91502, (818) 841-9655, FAX (818) 841-7649.

Pan-Tilt Unit

Directed Perception's PTU-46-17.5 pan-tilt unit moves over 300 degrees per second with 3.086 arc minute resolution. Measuring 3" X 5.11" X 4.25", its load capacity is over four lbs. Plug-and-play using RS-232 or RS-485 network. Host commands precisely control unit speed, acceleration, position and configurations. Self-calibration upon reset ensures reliable absolute positioning. On-the-fly changes support both position and velocity servocontrol. Designed for



battery-powered operation, it provides power management commands and flexible power input power requirements.

For information: Directed Perception, 1451 Capuchino Ave., Burlingame, CA 94010, (415) 342-9399, FAX (415) 342-9199.

Light Accessories

HK Tecknica's Lite-Ring can adjust to more than 20 lighting fixtures, and has adjustable handles for placing a softbox source on any lighting fixture having barndoor holders six to twelve inches in diameter. The ring can be easily attached to a century stand or hung together with a light fixture.

The company's Lite-Tent has interchangeable front panels, in textures such as silk, muslin, grid cloth and diffusion, which can be easily removed and securely held in place with a hook and loop fastener. The tent comes in two sizes, 24" X 32" and 36" X 48", and is also available with a resisted front panel.

For information: HK Tecknica, (214) 279-7200.

HMI Systems

DeSisti Lighting has introduced two compact HMI lighting systems, the Rembrandt 200W and the Raffaello 200W. The Rembrandt 200W is the smallest HMI fresnel spotlight in the DeSisti line. It has a five-inch lens, is balanced to 5600 degrees Kelvin (daylight) and has a smooth and uniform field over the entire range of spot-to-flood focusing.

The Raffaello 200W is the smallest HMI softlight in the DeSisti line.

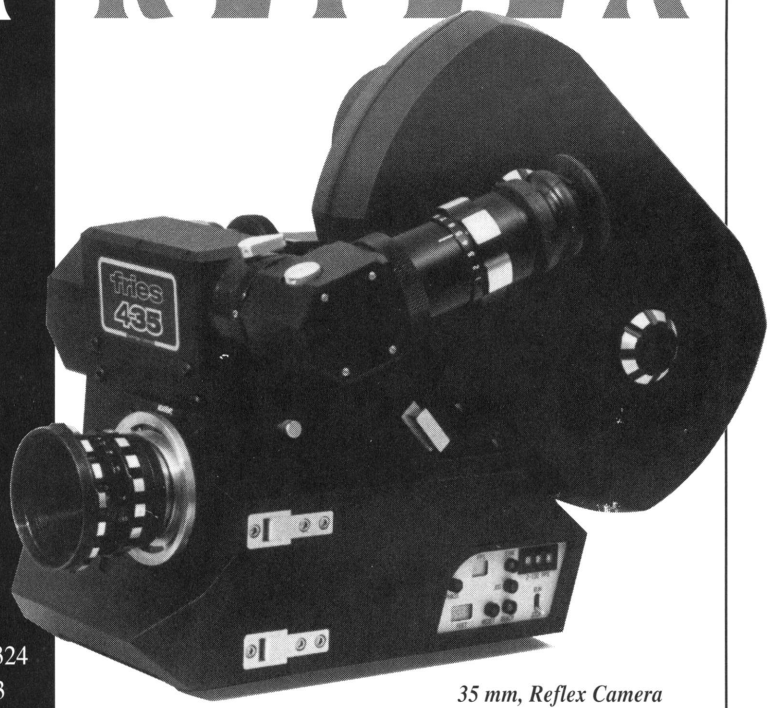
35 MM REFLEX

The Fries model 435 is a new general purpose MOS production 35mm camera. With its optical printer compatible register pins, steadiness and 150 FPS speed. The 435 is ideally suited for special effects, commercials or any photography where a quality steady image is desired.

The 435 is a spinning mirror reflex camera with a 170 degree blanking shutter. The internal 30VDC motor runs the camera from 2 to 150 FPS forward and 2 to 50 FPS reverse, in one frame increments all crystal. The camera is equipped with take-up and supply torque motors.

There are both 1000 ft. and 400 ft. displacement type magazines. A new feature is the light valve which allows the operator to direct all the light to the viewing system, or to the video assist, or combo which splits the light between both viewing and video assist.

Fries Engineering designs and manufactures special effects cameras and conversions in 35mm, 65mm and Vistavision including high speed, time lapse and motion control.



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It creates little or no shadow and allows the addition of egg crates and other light modifiers. The Raffaello is also available in a 220W/400W configuration that features two bulbs mounted within the single housing.

For information: DeSisti/ Desmar Corp., 1109 Grand Ave., North Bergen, NJ 07047, (201) 319-1100, FAX (201) 319-1104.

Digital Component Videocassettes

Fuji Photo Film USA Inc. is introducing its new ADC001 19mm Digital Component Videocassettes, designed for use with the new Ampex DCT Digital Recording System. The videocassettes utilize Super-Fine Metallix magnetic particles, a specially designed metal particle formation for improved picture and sound quality. Fuji's surface treatment techniques provide a smooth tape surface for superior tape-to-head contact with minimal head wear.

A proprietary binder formulation keeps the error rate at a minimum, and tough backcoating enhances runability and overall reliability, even after repeated recording and playback. Decreases in RF output are minimal, even after repeated search and pause operations.

For information: Fuji Photo Film, 555 Taxter Rd., Elmsford, NY 10523.

Compositing System

SoftImage's Eddie compositing system is an image compositor, editor, image processor, morph, and paint tool, with more than 20 different tools in one interface. Its heirarchical editing levels allow its tools to be customized by disconnecting, inserting and combining them at any time and any level. All tools have direct access to the animation editor. The system allows full resolution preview, for any resolution, in all tools and at all stages of the compositing process. A global access to the timeline allows the user to edit the actual frame or frames while editing the effects. Features include keyer, mixer, 3DMove, filter, ColourMap, text, tile shell, script, and Fake3D tools, as well as SoftImage Eddie Morph and Eddie Paint.

For information: SoftImage, 660 Newtown-Yardley Rd., Suite 202, Newtown, PA 18940, (215) 860-5525, FAX (215) 860-6395.

Fresnel

Lowel's Fren-L 650, available in September, is the first in Lowel's new line of fresnel lights, and is capable of accepting 650-, 500- and 300-watt lamps. The light has 7:1 focusing range, sharp shadow quality, and ball-bearing, rack-and-pinion lamp carriage. Features include double-wall convection cooling system, oversized swing-down handle, and single-yoke design, providing for generous tilting range.

For information: Lowel-Light Manufacturing, 140 58th St., Brooklyn, NY 11220, (800) 334-3426, FAX (718) 921-0303.

Morphing Software

5D's TMorph3 is the latest version of the company's image warping and postproduction software with new features that include realistic lighting and shading, stop-frame animation interpolation, and new DVE-type moves. New capabilities include positionable light source; in-betweening (stop-frame animation interpolation); fully anti-aliased mesh edges and fold silhouettes; and three correction curves for each morph group. Other features include height control, high-quality rendering of up to 16 bits per channel, and the ability to warp an unlimited number of areas within an image.

For information: 5D Solutions Ltd., Southbank Technopark, 90 London Rd., London SE1 6LN, 44.71.922.8814, FAX 44.71.401.8621.

Dimming System

Strand Lighting's CD80 Supervisor digital dimming system offers setup and status reporting on a remote PC as standard, and reporter loading status as an option. Security features include dual processor tracking backup, a cooling system employing convection-cooled components with fan assist, three speed-controlled fans to minimize noise and a user selectable panic function controlled directly by remote contact closures (fire alarm systems, for example) and, as an option, on removal of the process module. The system offers two multiplexed dimmer inputs, a maximum of 32 analog inputs, the System Wide Control (SWC) remote handheld and preset panel bus, and the Outlook architectural control system with up to 16 independent rooms (zones) with eight presets per room.

Also new from Strand are four HMI spotlights, the SuperNova 40/25, a 4000W fresnel that can also accept a lower wattage 2500W lamp; the SuperNova 25/12, a 2500W fresnel that can also accept a 1200W lamp; the SuperQuasar 40/25 par light, which can operate with either a 4000W or 2500W single-ended HMI lamp; and the SuperQuasar 25/12 par light, which can operate with either a 2500W or 1200W lamp.

For information: Strand Lighting, 18111 South Santa Fe Ave., Rancho Dominguez, CA 90221, (310) 637-7500, FAX (310) 632-5519.

Lightbank

Chimera's Micro Bank lightbank for use with on-camera lights measures 5" X 8". Speed rings are manufactured from 6061 T6 alloy and then black anodized. Speed rings are available to accept many on-camera lights, including Lowel Pro/I light, Anton Bauer Ultra Light 1-2 and Ultra Light Dual, Frezzi Mini Fill and Dual Light, Coolux U-3, and the Kobold Camera Light.

For information: Chimera Photographic Lighting, 1812 Valtec Lane, Boulder, CO 80301, (303) 444-8000.

Xenon Projection Bulbs

Hanovia's line of xenon projection bulbs offer "spider" supports in the side arm, replacing the conventional button and cup supports. The new bulb disperses the materials which cause bulb darkening into the non-optical side arm portion. Reduced thermal stress on the bulb provides greater arc stability and contributes to longer life. The new design also eliminates the need to rotate horizontally-operated bulbs, providing reduced service costs and increasing booth safety.

For information: Hanovia, 100 Chestnut St., Newark, NJ 07105, (800) 22XENON, FAX (201) 589-4430.

Super 16 Extender

Optex' Colcine x2 Super 16 Range Extender is available for either Arri PL or Bayonet mounts; the latter mount will also accept the OpTex Arri Bayonet to Aaton lens adaptor. Units are manufactured using stainless steel mounts and ports. The optics are multicoated for optimum light transmission and comprise six elements in four

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Westwood: UCLA Extension Building, 10995 Le Conte Avenue, Room 211
Fee: $575 **R**eg# T0194F

► The Craft of the Second Camera Assistant

This hands-on equipment and skills workshop held at Panavision Hollywood is for the aspiring second camera assistant in film production. Working professionals and camera technicians share their first-hand knowledge of the responsibilities, operational procedures, and protocol necessary to work in features, commercials, music videos, documentaries, and industrials. Topics include magazine loading, camera reports, equipment prep and setup, and set etiquette.

Lectures, discussion, demonstrations, and exercises are led by **David Kenig**, Manager of Technical Operations, Panavision Hollywood.

Saturday, 9 am-5 pm, July 16-August 13
Hollywood: Panavision Hollywood, 6779 Hawthorn Avenue
Fee: $435 **R**eg# T0210F

► Basic Lighting for Film and Video

Lighting a scene well requires an understanding of both aesthetic and technical tools and techniques. This hands-on course focuses on the craft of the director of photography, lighting director, gaffer, and electrician in lighting studio and location situations. Participants gain an understanding of the use of lighting instruments, grip equipment, waveform monitors, and light meters to produce quality images.

The instructors are **Chris Tallen**, director and director of photography whose clients include The Discovery Channel, Dick Clark Productions, and GTE and **Fred Martin**, director of photography whose clients include HBO and The Disney Channel.

Saturday, 9 am-12 noon, June 25-August 6
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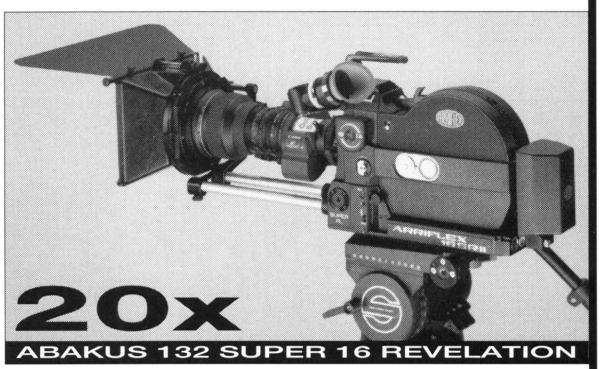

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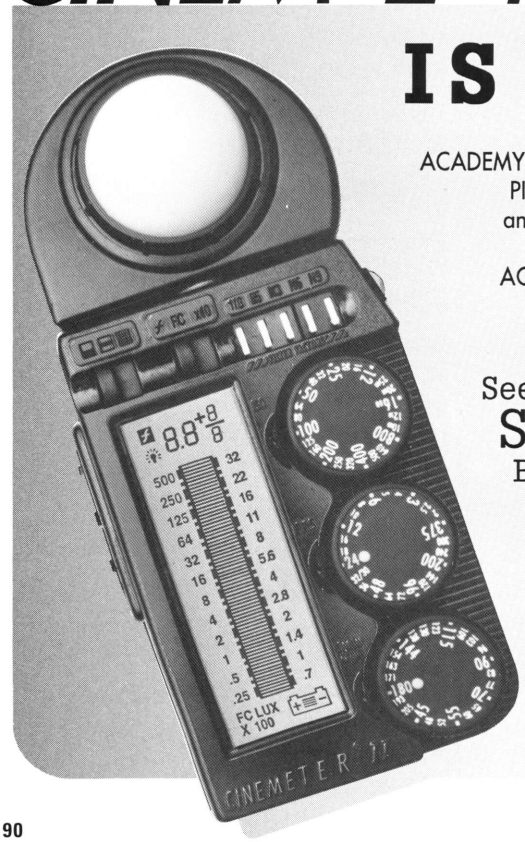

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groups. The extender is suitable for all Zeiss, RTH, Angenieux and Canon Super 16 conversions and OpTex converted long focal-length lenses.

For information: OpTex, 22-26 Victoria Rd., New Barnet, Herts., EN4 9PF England, 44.1.441.2199, FAX 44.1.449.3646.

Storyboard Software

Dubner International is introducing Storyboarder software in its new Scene Stealer for Windows release. Scene Stealer is a PC/AT circuit board and software for automatic scene detection. After the video is stored on the computer's hard disk with the cuts automatically marked and located, Storyboarder software offers tools to create a storyboard or EDL from multiple reels of video. Scenes can be rearranged and played back in modified order. Edit decision lists transfer via disk to most popular desktop editing systems, including programs written for both PC and Macintosh platforms.

Designed for videotape logging, archiving, and cataloging, Scene Stealer stores miniature black & white images at continuous intervals or when triggered by cuts. Images and scenes can be tagged with time code, annotated, archived, printed and exported. Outputs include EDLs and shot lists, ASCII text files, hard copy prints with pictures, comments and time code references, database import files, pex and gif files.

The original Scene Stealer circuit board remains unchanged. The board uses an eight-bit expansion slot of an IBM-compatible computer. It has scene detection circuitry and a frame grabber. Audio support, the software interface to a SoundBlaster I/O board or compatible, is standard in the Scene Stealer for Windows version. The exact time code of selected points in the optical soundtrack are immediately located. A DOS version of Scene Stealer is still available with or without the audio program.

For information: Dubner International, 13 Westervelt Place, Westwood, NJ 07675, (201) 664-6434, FAX (201) 358-9377.

Jib Arm

The Trovato Jr. jib arm handles any film or video system up to 100 lbs, uses standard barbell weights, and breaks down for easy transport and stor-

age. A smaller version of the Trovato Jib, the unit weighs 50 lbs. and has a double-sided Mitchell plate for conventional or underslung operation and Timken tapered roller bearings for maximum radial and axial stability. The head assembly inverts for additional clearance.

For information: Trovato Mfg., P.O. Box 18188, Rochester, NY 14618, (716) 244-3310.

Light Modifiers

Westcott Apollo RL3 light modifiers are strip lights with removable louvers built in, to be used to soften shadows and reduce contrast that occurs with production lights. The cloth louvers are attached to the three-inch-deep recessed front with Velcro and can be removed independently of each other. The RL3 opens, closes and affixes like an umbrella and is designed to fit over lights. Light can be directed through the front or reflected off the silver interior. All Apollo light modifiers are designed for easy attachment to light heads. No backing plates or speed rings are necessary.

The company has also added a new size and color of square, flat, collapsible reflectors and silks to the Illuminator reflector and silk line. 14-inch square reflectors in silver/white, silver/gold, sunlight and two-stop silk are now available, as well as square reflectors in silver/gold in 20, 30, and 42-inch sizes. The new reflectors and silks collapse into small handheld circles and are supported by their own frames, requiring no other tubing or disassembly.

Also available from Westcott are customized kits of the company's line of portable, collapsible scrims and flags. A set of any six fabric covers and six frames with a storage pouch is available in each of three sizes.

For information: Westcott, 1447 Summit St., P.O. Box 1596, Toledo, OH 43603, (419) 243-7311.

Portable Generator

ATI Power Products has produced the Lightning Charger, a portable electric generator that can be carried by a shoulder strap and is powerful enough to jump-start earth-moving equipment. The charger weighs 16 lbs. and is smaller than one cubic foot, but provides 55 amps of charging power and 80 amps of starting power through detachable

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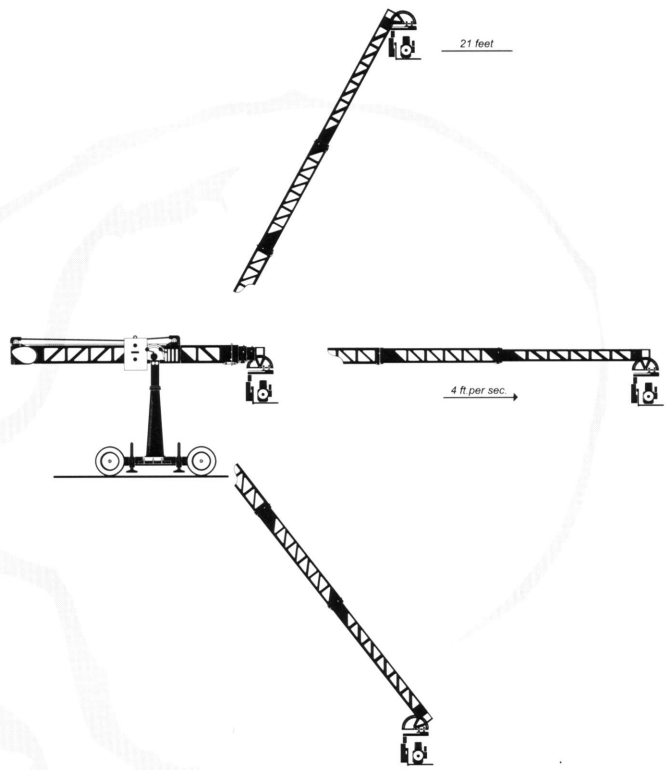

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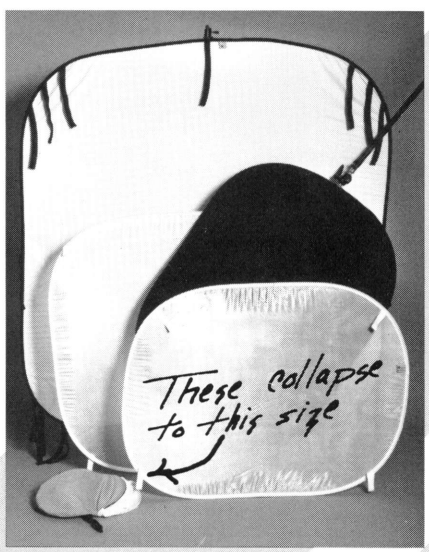

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jumper cables. It also puts out 900 watts of continuous 115-volt DC power through twin outlet plugs. The engine is powered by a gasoline/oil mixture and its 20 oz. tank will run the generator for about one hour.

The Lightning Charger was born as a defense conversion project through the Defense Advanced Research Projects Agency. ATI Power Products designed and developed a small high-performance alternator for a remote-controlled model airplane, used to draw fire and identify anti-aircraft installations.

For information: Active Technologies, 1117 LaVelle Rd., Alamogordo, NM 88310, (505) 437-0021, FAX (505) 434-6149.

Editing System

The new generation of Rio editing systems, the Rio Bravo family, was introduced by BTS at the 1994 NAB convention. The PC-based Rio Bravo system lets editors access full-featured control panels for each task with a keystroke or the roll of a trackball. Working in the Microsoft Windows graphics environment, Rio Bravo features onscreen graphic modules that emulate virtually every piece of a traditional hardware control system. Precise emulations of control panels from all major VTR formats, including D-1, D-2, D-3, Betacam, Digital Betacam, one-inch and S-VHS, and all major switchers are standard features of the systems.

Picture-in-picture editing, enabling users to build storyline by matching images while the computer builds a concurrent edit decision list (EDL), is a featured option on the systems. Users can switch instantly between picture-in-picture editing, for example, and an editing interface featuring a switcher module complete with a sophisticated M/E bank. If full-featured audio mixing is required, an optional eight-channel audio mixer can be added with onscreen editing console.

Other Rio Bravo features include auto match frame edits, slow-motion edits, auto-assembly, audio/video split edits, record ripple, auto-cleaning of EDLs, full search functions, and ability to read serial VITC, serial LTC, user bits and control track. Standard DVE drivers include the BTS Prizm digital video effects system.

Also available is the Rio Bravo

NL, a nonlinear editing extension to the basic Rio Bravo system.

For information: BTS Broadcast Television Systems, 94 W. Cochran St., Simi Valley, CA 93065, (805) 584-4700, FAX (805) 584-4750.

Electronic Ballast

Sachtler's Netronic 2 electronic ballast is a lightweight, flicker-free ballast for powering Sachtler daylight fixtures, open face and fresnel, 125W, 200W and 270W from any worldwide line voltage with no ground wiring required. The ballast incorporates Sachtler's fixture-sensing circuitry that will automatically detect which fixture has been connected and display the corresponding power on the front panel LEDs.

The Netronic is very quiet and can be used in locations where criticial sound recordings are being made.

For information: Sachtler AG, Gutenberstrasse 5, D-85716 Untershleisheim, Germany, 89.32.15.82.00, FAX 89.32.15.82.27.

Camera Speed Tester

Media Logic's Speed Check 102 speed tester for motion picture cameras can test whole frame rates from 1 to 100 fps, as well as 23.976 and 29.970. The Speed Check 102 operates by sequencing six LEDs at a crystal-controlled rate. When viewed through a running mirror-reflex camera (or through the gate of any non-reflex or beam-splitter camera), the LEDs will appear to freeze in place if the camera is running properly. Any speed variation will cause the LEDs to drift right or left.

The Speed Check 102 is housed in a small ABS enclosure and powered by a single 9-volt battery. A two-digit pushwheel switch allows the user to dial in speeds from 1 to 100 fps and the special video speeds are selected by a three-position toggle switch. Microcontroller based technology allows the Speed Check 102 to offer all these features while remaining low priced, and reduces the overall chip count for increased reliability.

A strobe version of the Speed Check 102 is available to test non-reflex cameras, editing machines, projectors, and dubbers. This version incorporates a single super-bright LED to strobe camera movements, sprocket wheels, or the film itself.

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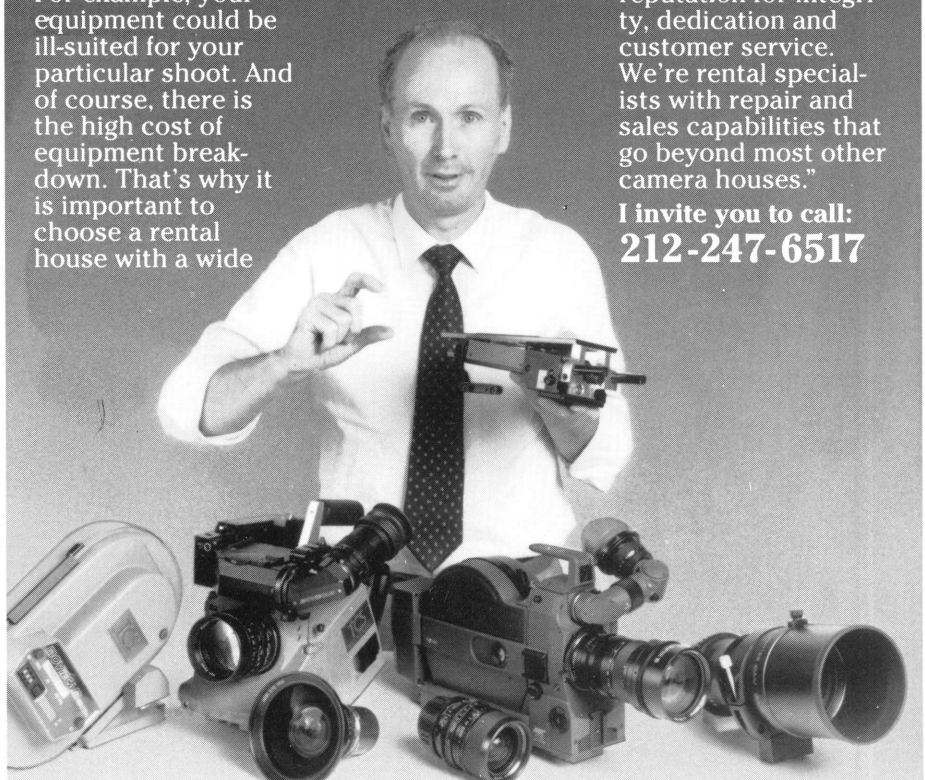

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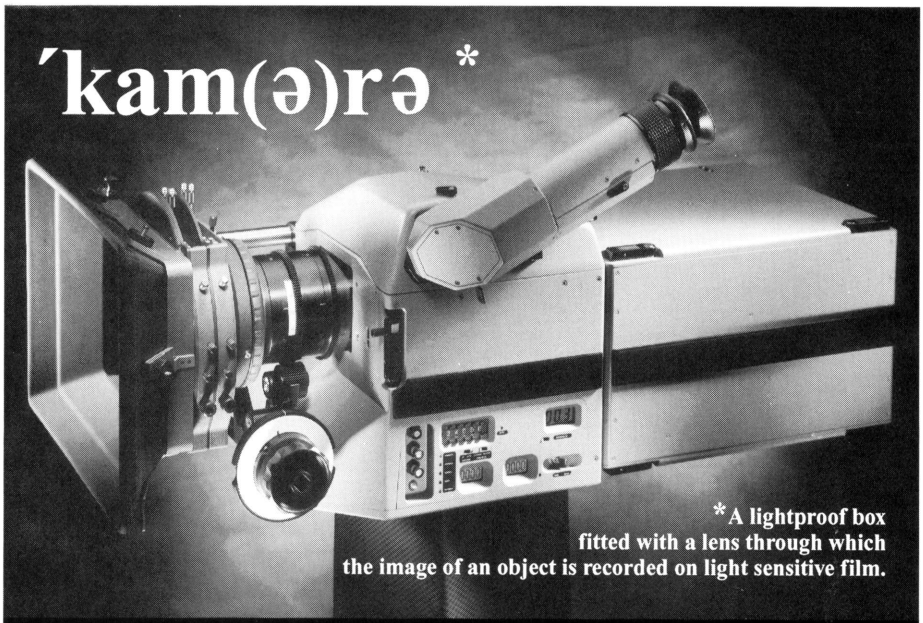

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For information: Media Logic, 17 West 20th St., Suite 5E, New York, NY 10011, (212) 924-3824, FAX (212) 924-3823.

35mm Camera

The Fries model 435 general purpose MOS production 35mm camera sports optical printer compatible register pins and a 150 fps speed, and is ideally suited for special effects, commercials or any photography where a quality steady image is desired.

The 435 is a spinning-mirror reflex camera with a 170-degree banking shutter. The internal 30VDC motor runs the camera from 2 to 150 fps forward and 2 to 50 fps reverse, in one-frame increments. The camera is equipped with take-up and supply torque motors. Both 1000-foot and 400-foot displacement type magazines are available. A new light valve feature allows the operator to direct light to the viewing system or to the video assist, or to split it between both.

For more information: Fries Engineering, 8743 Shirley Ave., Northridge, CA 91324, (818) 998-5400, FAX (818) 998-7553.

Generator

Burrell Enterprises' LitePower 60KW Generator is a lightweight, silent 500A generator designed specifically for the commercial, film and video industries. The generator weighs 3310 lbs., including trailer and fuel, making it light enough to be pulled by any half-ton vehicle. A microprocessor-based system operates the engine/generator controls and fault protection. All readouts are digital.

For information: Burrell Enterprises, 4009 Wilshire Court, Plano, TX 75023, (214) 596-2746, FAX (214 (612) 2402.

10KW Spotlight

Xenotech's Britelight is one of the first 10,000-watt xenon spotlights, and has a peak beam of over one billion candlepower. Also called the Super Ten, the stand-alone Britelight is 37"W X 41"L X 37" H and comes with a 305 lb. power supply which can handle 50 amperes, 208 volts AC, three phases of input current and will output 50 volts and 200 amperes DC.

The light operates on a stan-

dard DMX-512 protocol and offers tilt, pan, beam focus, color scrolling and dowser functions. The color scroller can have up to 16 frames of color, including clear.

An automated xenon searchlight with the same electrical and mechanical specifications is also available.

For information: Xenotech, 8211 Lankershim Blvd., North Hollywood, CA 91605, (800) 932-XENO, FAX (818) 767-0395.

Time Code Reader

ESE's ES-272A/9 time code reader displays julian date and time, comes set up to read IRIG-B code (all codes — such as IRIG-A, C, D, E, H, CS; NASA 28, 36; 2137; XR-3 and MILA — are also available), and features nine LED displays measuring 2.3" high.

For information: ESE, 142 Sierra St., El Segundo, CA 90245, (310) 322-2136.

Expanded Dailies Service

N.Y. Dailies, in association with Guffanti Film Laboratories, have expanded their negative developing laboratory and video capabilities and are now accepting and providing complete dailies services for Super 16mm negative in both color and black & white. The lab can also print Super 16mm answer prints in color and black & white, with both high-speed dailies screening and normal projection available. The company is also offering film-to-tape transfers from all Super 16mm film to all format video dailies, including audio layback from both original quarter-inch and/or DAT cassettes.

For information: Guffanti Film Laboratories, 630 Ninth Ave., New York, NY 10036, (800) 351-6LAB, FAX (212) 245-1193.

Portable Pedestal

Matthews' Matth-Matic portable pedestal for studio and location broadcasting will handle any camera package up to 66 lbs., features adjustable wheel locks for tracking and crabbing, and has adjustable cable guards. The legs fold for easy carrying and any 100mm claw ball will mount onto it. An air pump for recharging the pneumatic column attaches to one leg. Weighing only 41 lbs., extension is from a low of

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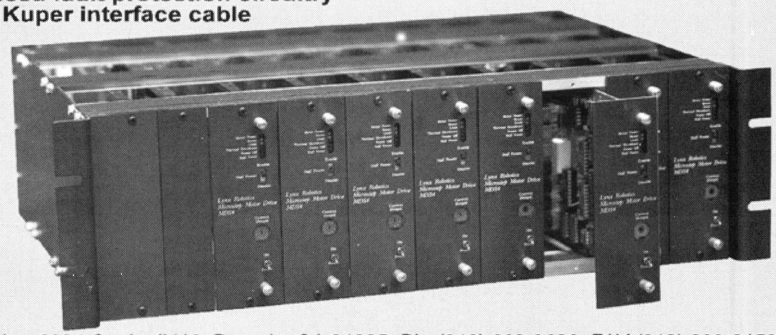

Lynx Robotics, 6924 Canby #116, Reseda, CA 91335, Ph. (818) 609-9620, FAX (818) 609-8153

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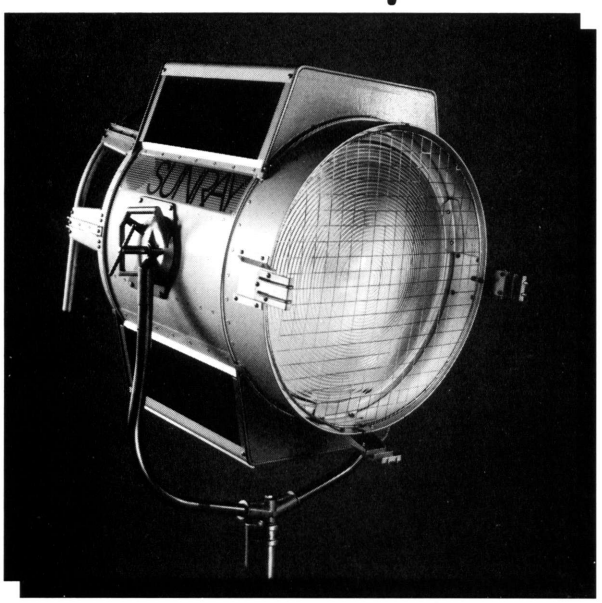

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For information: Matthews Studio Equipment, (800) CE STAND.

3-D Animation Software for Macs

New features of Version 1.5 of CrystalGraphics Topas for the Mac 3-D animation software include faster rendering time, QuickTime compatibility, JPEG image compression, improved image quality, and enhanced control over object acceleration in the TimeGraph editor.

A full-color Quick Reference Card includes tips, techniques and illustrations of all menu items. The Crystal Gems CD-ROM includes hundreds of megabytes of backgrounds, texture maps, models, rendered images and samples. A special native mode PowerPC Version wil be included with each package or mailed later.

For information: CrystalGraphics, 3110 Patrick Henry Dr., Santa Clara, CA 95054, (800) TOPAS-3D, FAX (408) 496-0970.

Dropout Counter

RTI's TapeChek Model DXA-11 Dropout Counter is designed for testing and monitoring digital and analog videotape recording formats. The DXA-11 works with any recorded video signal. Used in conjunction with a VTR, it works with confidence heads during recording, or with play heads during playback. The unit has two dropout counters, designed to provide separate counts of small and large dropouts. It reports dropouts by time code or by tape run time. Selectable time modes for display and printout permit accurate identification of tape problem spots. The unit also allows the user to program dropout criteria — dropout depth trip and untrip levels, and duration for both counters. The DXA-11 allows the user to preset tape quality criteria. During monitoring, programmable alarm will sound if dropouts exceed preset limits.

The DXA-11's front panel display shows setup information, user programmable settings, and current dropout counts during tape analysis. A built-in

hard copy printer provides record of dropouts per minute (or other interval) and cumulative dropouts from two independent counters. The printer also prints date and tape ID numbers, and depth/duration criteria for each of the two counters.

The unit is a rack-mountable 19" wide, 5" high, and 17" deep, and is supplied with buffer modules for connection to VTRs and all necessary cables.

For information: Research Technology International, 4700 Chase, Lincolnwood, IL 60646-1689, (800) 323-7520, FAX (708) 677-1311.

Long Distance Time Code Reader

ProSource's Scriptview long distance time code reader offers a large eight-segment liquid crystal display with a character height of 28mm. The Scriptview, sporting an anti-glare screen, mounts directly on the side of the Betacam camcorder for easy visibility for time code logging.

For information: ProSource, 104 Rowayton Court, Rowayton, CT 06853, (800) 322-7767, FAX (203) 855-9225.

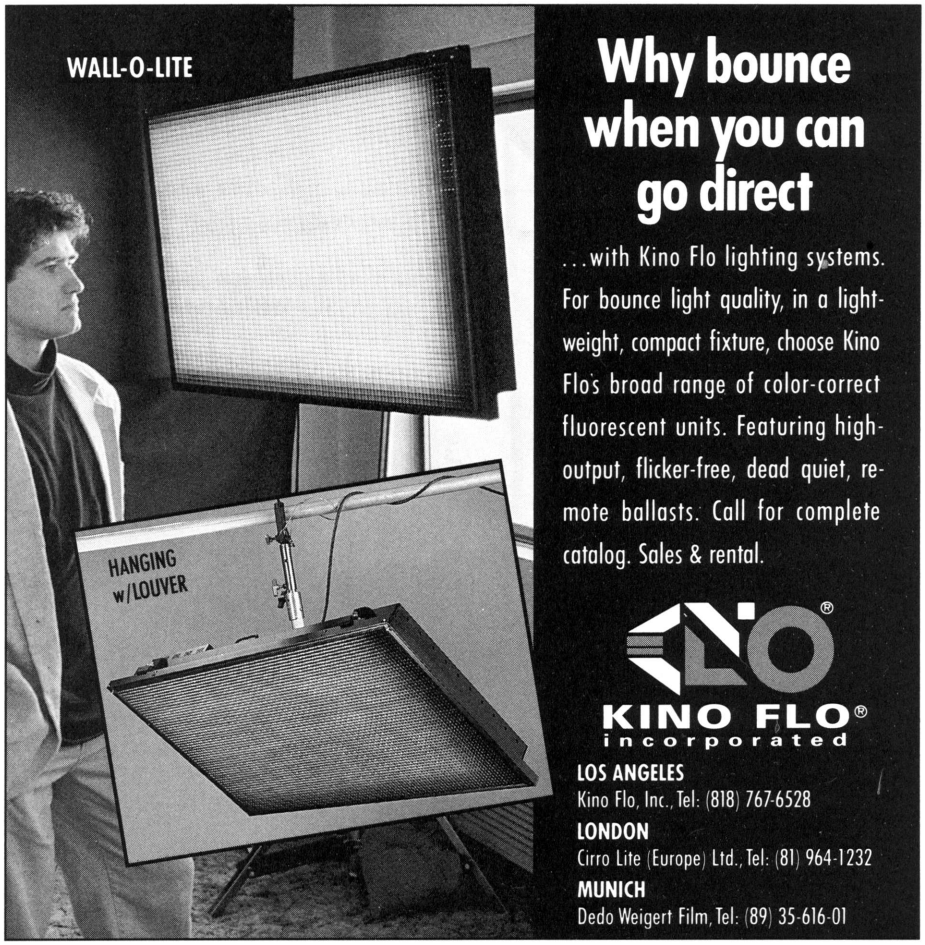
Crane

Louma's newest Akela Crane rental package from Fluid Images includes the 70-foot Akela Crane Arm, lens witness camera, two video monitors, two-channel intercom, custom truck and trailer, and experienced operators. With a maximum camera weight of 65 lbs., the Hot Head II can accommodate most 35mm, 16mm, or video cameras, and features a Preston lens control system utilizing Microforce and Micro-servo controls with Heden motors for zoom, focus and iris.

For information: Louma L.A., 8536 W. Venice Blvd., Los Angeles, CA 90034, (310) 558-7890, FAX (310) 558-7891.

Special Effects Package

The Max special effects package is now being installed in Henry effects editing systems. The package's new capabilities include Mega Blue,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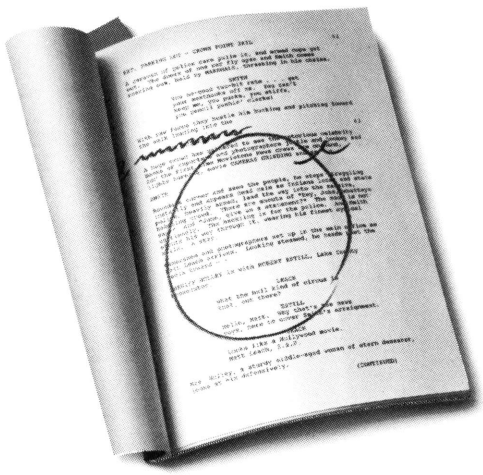

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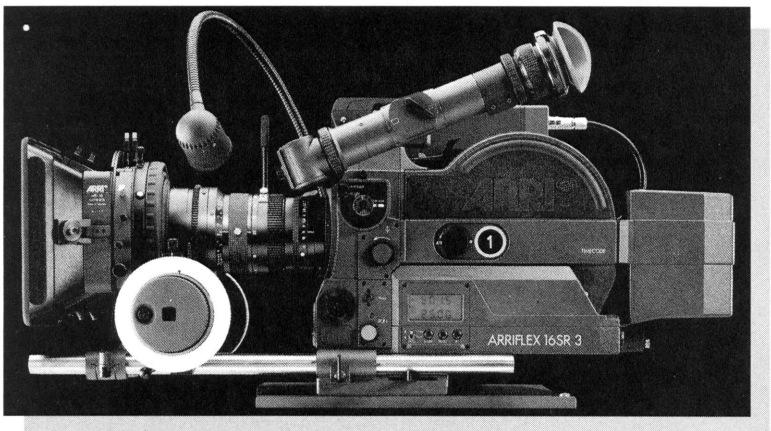

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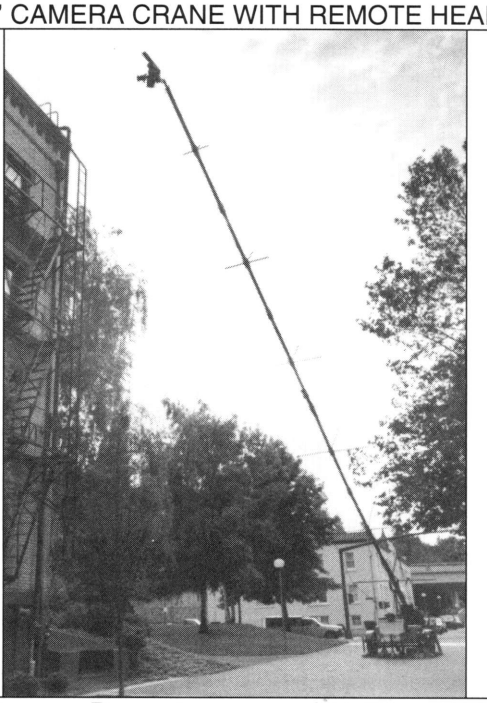

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Noise FX, and the Contour picture bending and distortion feature. Contour picture-bending effects range from straightforward page turns to custom 3-D image distortions. Control is via the pen and tablet, an extension of Quantel's innovative corner pinning technique; simply by pushing or pulling on a grid of points laid over the image, any 3-D shape is quickly and easily created as if the image were an inifinitely flexible rubber sheet. Effects can be key-framed, useful for making one 3-D shape ooze into the other, or for setting up custom ripple-type effects.

Contour's dedicated processing power allows the changing shape of an image to be continuously displayed as it develops. No math or tedious plotting is required, just eye/pen coordination, making operation completely interactive. A series of wrap routines allows familiar shapes such as globes and tubes to be quickly defined.

Mega blur — which, by use of key-framing, can progressively transform a sharp image to total loss of distinction — can be applied simultaneously to both video and its matte/key to create focus changes rapidly during multi-layer work. Noise FX operates in the same manner, but with video noise, allowing the picture to be progressively degraded.

For information: Quantel, (203) 656-3100.

Image Processing Animation for SGI

Xaos Tools has updated its Pandemonium image processing animation software for SGI workstations. Version 2.0 provides a sketch mode for preview and rendering of images and animations faster at lower resolutions, and an enhanced function tool which delivers greater control through precise spline path editing of the parameters of every effect.

Pandemonium uses any available source imagery, such as video clips, 3-D animation, or even single still images, to create powerful animated sequences, transitions and video effects, and offers a set of desktop video utilities and 40 preset effects modules. Effects such as bubbles, vortex, warp, and mo-

saics can be customized with the control of animated parameters. The utilities provide standard image processing tasks and video effects such as cropping, color correction, alpha compositing, filtering, and matte generation. All Pandemonium effects and utilities are available for use on a wide variety of formats and resolutions, providing broadcast quality and high-resolution output and compatibility with other SGI platform software products.

For information: Xaos Tools, 600 Townsend St., Suite 270 East, San Francisco, CA 94103, (415) 487-7000, FAX (415) 558-9886.

HMI System

Durapar's 6000W Par HMI System is a lightweight lighting system incorporating a double-ended 6KW HMI lamp. Its large reflector provides an output efficiency of 50 to 60 percent, and at 20 feet will deliver 21,000 footcandles with a beam size of three feet.

The fixture weighs 65 lbs., with a ballast weight of 108 lbs. Its dimensions are 23" X 12" X 11", and it operates on a standard 208-220-240 VAC, drawing only 30 to 35 amps. The fixture's QuickStart feature greatly extends the life of lamp, ballast, and ignitor.

The unit's beam can be diffused by using a 21" X 24" lens accessory attached in front of the fixture, or by mounting the Spectra-Flux Diffusion Module, which converts the fixture into a soft, broad light source.

Also from Durapar is the 12KW Par HMI System, which delivers 29,600 footcandles with a beam size of six feet in diameter. The total weight of fixture and ballast is under 200 lbs.

For information: DN Labs, 1430 Willamette St., Suite 18, Eugene, OR 97401, (503) 484-1977, FAX (503) 485-4016.

Ni-Cad Analyzer

Pag's Battery Analyser is a fully-calibrated laboratory test instrument for all Ni-Cad batteries in the range 4 to 30V, 0.5 to 10 Ah. The Analyser can be powered from an AC supply in the range 100 to 135V or 207 to 265 V, has

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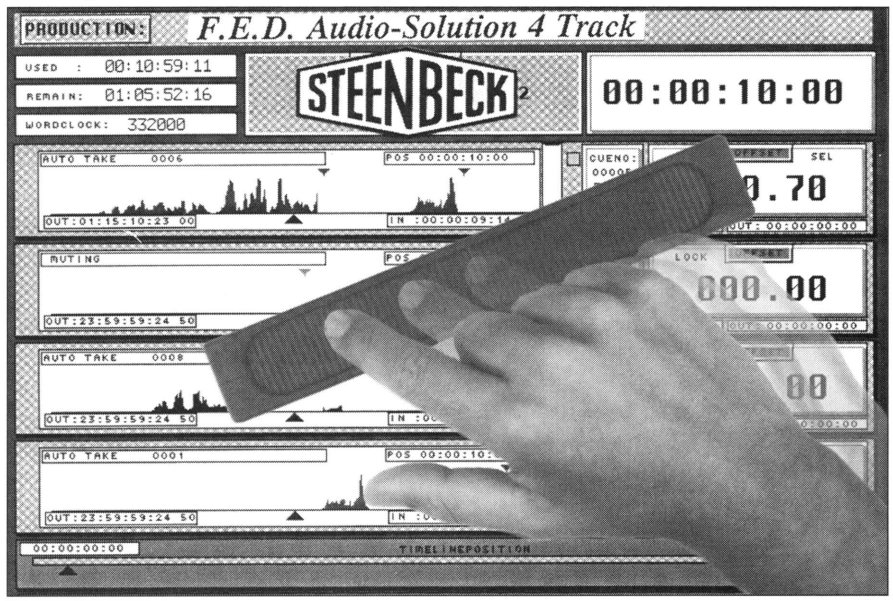

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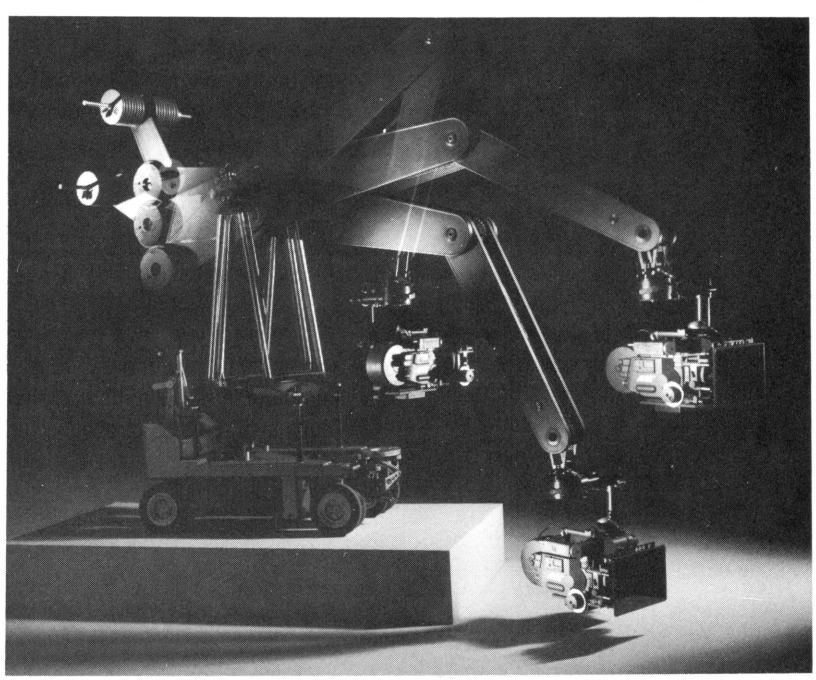

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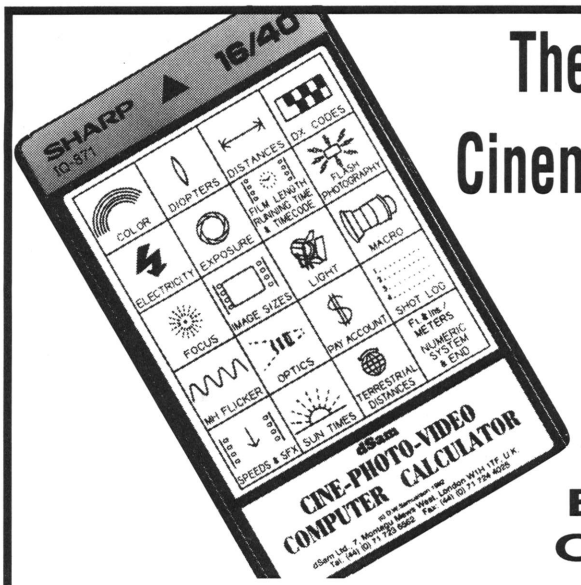

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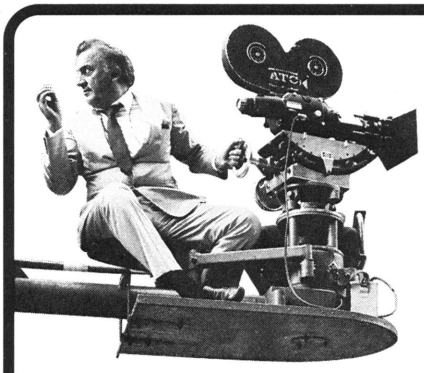

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four channels and is operated via a system of menus. A liquid crystal display indicates the soft function control parameters of the Analyser, as well as the status of each battery, referring to the channel number, current loaded, operational efficiency, number of cells operating, and a graph of each battery's charge and discharge profile. This information is stored with reference to the appropriate channel until a new battery is connected.

The PAG Analyser is able to monitor and control a variety of analytical programs, assessing battery condition and improving it when possible. Each of the Analyser's four channels may be set to one of the following programs: single charge, single discharge, discharge-then-charge, revitalize, and cycle.

Although the PAG Analyser is a stand-alone unit, it may be contorlled from an IBM compatible PC. It is possible to control up to four units from one PC. Hardware provision for this is made in the form of two ports: a host port compatible with the serial port of a PC, and a slave port designed to connect to the host port of another Analyser.

For information: PAG Ltd., 565 Kingston Rd., London SW20 8SA, 44.81.543.3131, FAX 44.81.540.4797.

Alternative Exhibition Guide

The Film Arts Foundation's AEIOU (Alternative Exhibition Information of the Universe) guide lists organizations which regularly exhibit challenging, alternative independent film and video throughout the U.S. and internationally. Requests for copies can be made by writing to AEIOU, Film Arts Foundaton, 346 Ninth Street, Second Floor, San Francisco, CA 94103. Please send an addressed mailing label and $6.00 to cover photocopying and postage.

Grazer Makes the Most of New York's "Mean Streets"

by Brooke Comer

There are enough West Coast producers who break out in hives at the thought of working in New York to form an "I Hate to Shoot in New York" club. The members of this informal group justify their fears by citing horror stories about productions held up by transit strikes, union troubles, or other urban foul-ups. Ironically, many of these producers are actually native New Yorkers, disguised by the suntans and haircuts that came with their success on the West Coast. It's possible, of course, that the New York skyline triggers memories of childhood trauma. This could explain why one of the few L.A. producers who loves to shoot in New York is a native of Southern California.

Brian Grazer, who heads up Imagine Films Entertainment with partner Ron Howard, loves Manhattan. He recognizes the challenges that an unwieldy population, traffic and cold weather can pose, but he also sees, amid the flux and chaos, an energy as mercurial as his own.

Scripts with New York scenes have never fazed Grazer. His first two movies, *Night Shift* and *Splash,* were shot in New York, and he has used the city as a setting for several other pictures as well. Of the four projects Grazer produced this spring — *My Girl Two, Greedy, The Paper* and *The Cowboy Way* — the latter two both filmed in New York (*Cowboy Way* also shot in Santa Fe).

Imagine's most recent release, *The Paper,* takes place in Manhattan, but 60 percent of its scenes are interiors. As Grazer admits, "It could have been made anywhere." Yet New York, specifically the 18th floor of an almost fully occupied building across the street from the Fulton Fish Market, was the chosen location. "We felt the true vibrance of the city would come across if we shot in the real environment. The publishing industry is an important part of the New York fabric, something we hoped would seep into our movie and have some value. And it did. Being in New York helped stimulate the pace of the newsroom scenes."

Grazer has always enjoyed good fortune in the city, and has rarely felt any trepidation about returning. "I had incredible luck with *The Paper,*" he recalls. "Everything went perfectly. But I did have some doubts about shooting *The Cowboy Way.* I was frightened by the number of exteriors and the amount of time we had for shooting." He also worried about unpredictable weather in late fall and winter. "Even though the film is thematically indigenous to New York, I tried to find ways to split it between L.A. and Canada or New York and Canada," he says. But he realized there was no way to avoid New York and maintain any kind of reality, "so I crossed my fingers, closed my eyes and decided to do it."

The Cowboy Way tracks the adventures of two contemporary cowboys from New Mexico (played by Keifer Sutherland and Woody Harrelson), who make a hand-to-mouth living off of jackpot rodeos and "brush popping" (retrieving lost cattle for money). When their friend is killed in New York, they head to the Big Apple to brush-pop for the bad guys responsible.

The picture's numerous exteriors were made trickier by the involvement of horses. In a memorable chase scene, the two stars gallop on horseback across the Brooklyn Bridge in hot pursuit of a subway. "There's only one bridge where you can be above the subway and intersect it at the same time, so that the proximity is close enough to see faces," Grazer notes. "I thought about ways to cheat it, but there was no way to do it."

Up in the helicopter on the day of the shoot, Grazer worried that fog might obscure the master shot of the

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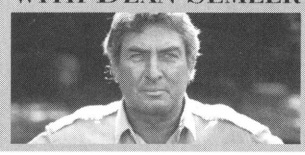

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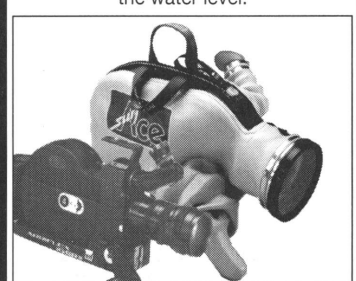

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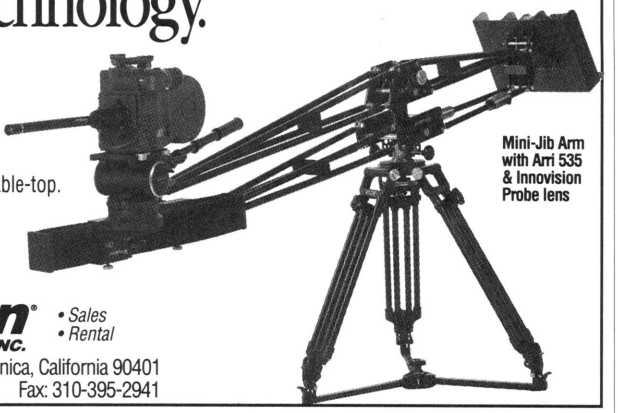

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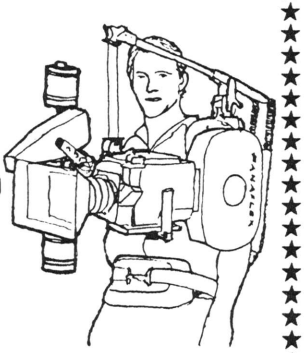

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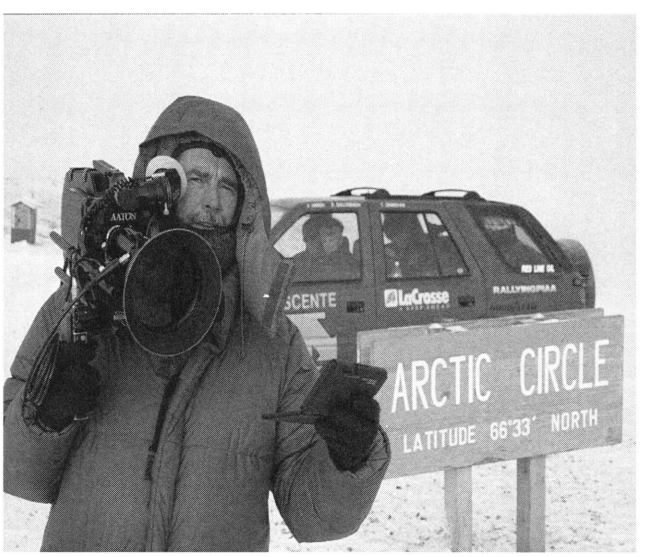

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bridge. "We were lucky," Grazer recalls. "We got a perfect shot."

Shooting the bridge scene was only half the problem, though; getting *permission* to shoot the scene was the other half. As film-friendly as New York is, there are some locations producers avoid requesting. The Brooklyn Bridge, which had never been closed off for a shoot, is one of them.

Some three weeks before the bridge scene was to be shot, however, the producer happened to be having lunch with New York District Attorney Robert Morgenthau. Morgenthau invited him to a press conference, where Grazer shook hands with then-Mayor David Dinkins. Dinkins and then-Film Commissioner Richard Brick had both promised Grazer they'd do anything they could to help the film. And when Dinkins ran into Grazer this time, he made another offer, in earshot of Morgenthau, to do anything possible to assist the production. "I asked him for the bridge then and there," Grazer reveals. Dinkins kept his word and Grazer got his bridge.

Dinkins and Brick weren't the only natives who made Grazer's job easier. "New York actors are different," says Grazer. "When I cast out of New York, I always find the talent pool rich with so many layers of true artists. And New York talent agents can be invaluable because they know who's been in what play, [and] that even if that play closed after a week, the person in it was great." Because of the different Guild rules, extras in New York films can have lines, which is perhaps why "New York extras have so much more integrity than L.A. extras. In L.A., they're embarrassed to be extras; their self-esteem is broken down by that below-the-line hierarchal system. And it really shows." He points to the newsroom scenes in *The Paper*, which required a lot of raw energy on the parts of the extras. "A lot of journalists have commented on the level of realism, the chaos," he says.

Grazer himself thrives on such an atmosphere, and his healthy attitude is an example for filmmakers everywhere. "Chaos is part of the New York energy, and I love being part of it. I'm a very curious person, and this is a city that lets you satisfy your curiosity on many levels. Every day you can do something different: visit a museum, go to Chinatown. Just walking down the New York streets is an experience."

Books in Review

by George Turner

Justified Lives
by Michael Bliss
Southern Illinois University Press, cloth, 368 pps., $45.

Sam Peckinpah's reputation in the movie industry was somewhat like that of Wagner in the music field: a tough, uncompromising, self-indulgent artist who contributed much anguish, perhaps even an occasional ulcer or nervous collapse, to his co-workers. Like Wagner, his contributions to his chosen art form far outweigh whatever grumbles his personal idiosyncracies may have aroused. The 14 features Peckinpah gave us, beginning in 1961 with *The Deadly Companions* and ending with 1983's *The Osterman Weekend*, make up a distinctive body of work. Although the results were variable (occasionally due to Peckinpah's own misjudgment, but often because of executive tampering), the director had his share of solid hits and invariably got superb collaboration from ASC cinematographers Lucien Ballard, Phil Lathrop, William Clothier, Alex Phillips Jr., Sam Leavitt, and Harry Stradling Jr., as well as the French master John Coquillon.

Bliss concentrates upon studying the actual films, with no peeks behind the scenes, no intrusions upon Peckinpah's stormy private life, no outmoded forays into Freud. As he explains, "What should matter to us is only what Peckinpah did when he was working. Concerning ourselves with the films themselves, we discover a generous, loving, vulnerable director whose innovative editing and uncompromising devotion to the need for a personal code of behavior are unique in American filmmaking."

While Peckinpah is best known for his traditional Westerns, most notably *The Ballad of Cable Hogue, Ride the High Country* and *The Wild Bunch,* Bliss demonstrates that his pictures dealing with other themes and locales remain true to the values of the Western. He properly traces how the optimism of the early films gives way to pessimism and then despair during the course of the director's career, with a sudden reprise of hope at the last. Many of Bliss' conclusions are indisputable; a few — such as fingering Dustin Hoffman (in *Straw Dogs)* as the instigator of the seige upon his house instead of the victim — may be rather far-out. But why not? The writer has the courage of his convictions and we should respect that, especially in a book as well thought-out as this.

Ingmar Bergman: Film and Stage
by Robert Emmett Long
Abrams, cloth, 208 pps., $60

It seems incredible that 1994 marks the 50th year in which Ingmar Bergman has been making movies and staging plays. This book is an appropriate tribute. Beginning with Bergman's traumatic childhood, the shadow of which looms ever after, Long offers an extensive account of the artist's life and work. Bergman's career caught fire at Svensk Filmindustri with his screenplay for Alf Sjoberg's masterpiece *Hets (Torment / Frenzy).* Inevitably, after a few more writing chores, he became a director whose brilliance was quickly recognized.

The best of Bergman's early successes, such as *Smiles of a Summer Night, The Seventh Seal, Wild Strawberries* and *The Magician,* were done in collaboration with cinematographer Gunnar Fischer. These are marvelous examples of a pictorial style that characterized Scandinavian cinema almost from the beginning, in which classical compositions and subtle lighting yielded black & white images of almost sculptural beauty. Bergman's 25-year collaboration with Sven Nyqvist, ASC followed, bringing forth equally striking scenes that were less formalized and more naturalistic. These mature works include several classics: *The Virgin Spring, Through a Glass Darkly, The Silence, Persona* and *Cries and Whispers.* Beginning in the 1960s, Eastman color cinematography added elegance of a different sort to the

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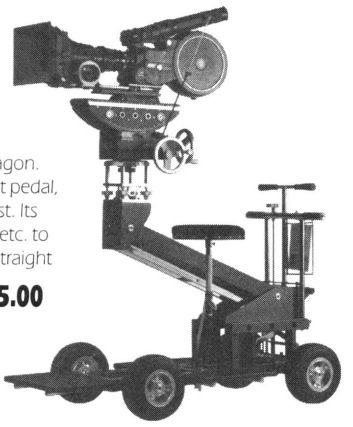

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later Bergman-Nyquist visuals, which are especially stunning in *The Magic Flute* and *Fanny and Alexander.*

Long includes a telling quote from Nyqvist that Bergman "has meant more to me than almost anyone else in my whole life because of what he taught me. He got me interested in what I think is the most important thing in photography — using light to create the right mood." It seems likely that Nyqvist's influence on Bergman may be equally strong.

The book includes about 200 photographs, many in color. The stage productions seem fascinating enough to make one wish that they, too, were preserved on film. Excellent writing and fine illustrations, combined with the high quality of production for which Abrams is noted, make for an eminently worthwhile piece of work.

Kings of the Jungle
by David Fury
McFarland, cloth,
256 pps., $37.50

The first Tarzan movie, starring the massive Elmo Lincoln, was made in 1917 during World War I. It was perfect escapist entertainment for war-weary citizens. The most popular Tarzan films — the six with Johnny Weissmuller made by MGM between 1932 and 1942 — covered most of the Great Depression, all of the Dust Bowl era, and a chunk of World War II. Again, these circus-like attractions were embraced lovingly by a public desperately in need of respite from cruel realities. Then came the Cold War and the nuclear jitters — and more Tarzan pictures.

Fury does a good job of describing these pictures via essays, synopses, extended casts and credits, review culls, etc. Especially valuable are the entries on early silent films. The section about the MGM series owes much to Rudy Behlmer's article on the subject in *American Cinematographer,* which was reprinted in the book *The Cinema of Adventure, Romance and Terror.* This was duly acknowledged in the author's manuscript, but the publishers omitted credit in the final printing.

Both TV series are covered very well, with synopses and guest players included for individual episodes. A foreword by Maureen O'Sullivan adds a pleasant touch.

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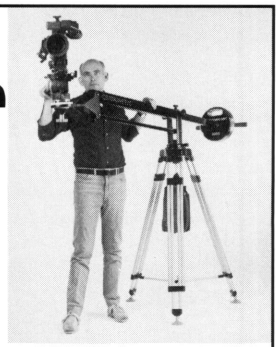

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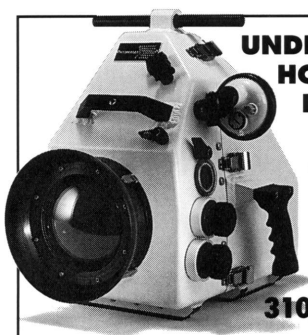

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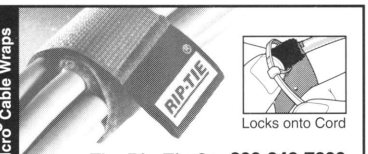

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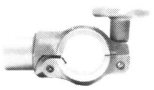

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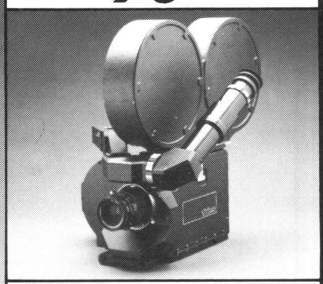

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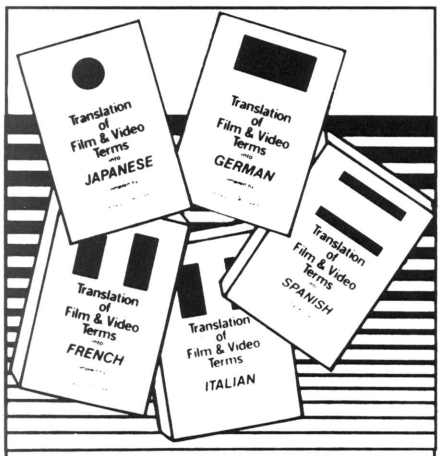
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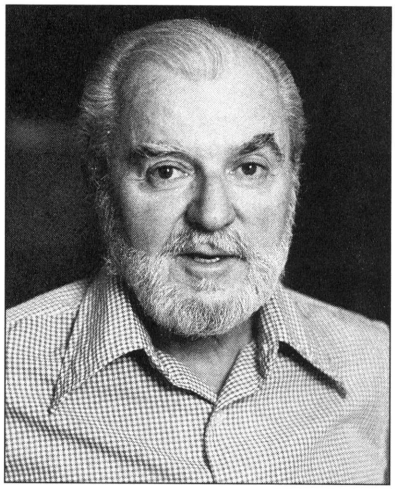

Frank V. Phillips, ASC, who entered the motion picture industry at the MGM film lab more than 60 years ago, died of lung cancer on April 10, three days after his 82nd birthday. He had been living in Prescott, Arizona for several years. Phillips worked on more than 300 theatrical movies and 600 television episodes prior to his retirement.

Phillips was born on April 7, 1912 in San Bernardino, California. He started a summer job as an office boy at MGM in 1931 but intended to leave in order to become a football player at Notre Dame. Following the airplane crash death of coach Knute Rockne, he decided to stay with MGM. He was soon promoted to film loader and became enamored with the cameras. "I saw what the cameraman did and said, 'Hey, I like that,'" he recalled, and in due time he became assistant to Irving Reis, ASC in the optical effects department.

As an assistant cameraman he later worked with top-drawer cinematographers on some of the studio's most prestigious pictures, including assisting Harry Stradling (Sr.), ASC on *Picture of Dorian Gray* in 1942, and George Folsey, ASC on *The Great Sinner* in 1944. He became an operator in 1949 for Robert Surtees, ASC on the *King Solomon's Mines* African expedition. Other pictures as operator included *Singin' in the Rain* (1952) for Hal Rosson, ASC, *Giant* (1955) for William Mellor, ASC and that classic of London fog, *23 Paces to Baker Street* (1956) for Milton Krasner, ASC.

Phillips became a director of photography at Fox in 1954, doing the second unit work in Europe for *The Racers* and *Lord Vanity*. At this time, he has said, he "was willing to base a career on flying and dangerous type photography (racing, etc.) — [but I] would have starved to death." Instead, he segued into the television field in 1956, photographing 76 segments of *Navy Log*, 18 episodes of *Jefferson Drum*, 38 segments each of *Border Patrol* and *Hotel de Paris*, and 108 episodes of *Have Gun, Will Travel*. He had a long stint with *Gunsmoke*, and also photographed various episodes of *Maverick, Colt 45, Perry Mason, Ozzie and Harriet, Adventures in Paradise*, and *Hong Kong*, as well as numerous TV pilots, specials and movies of the week.

In 1963 Phillips decided to leave *Gunsmoke* and return to the big screen, although he still made occasional pilots and features for TV such as *Harvest Home* for Universal and *All God's Chillun* for Viacom. Much of his later feature work was done for Disney Productions, where he often was heavily involved in photographing special visual effects in addition to his work as director of photography. *Island at the Top of the World*, for example, contained more matte shots than any previous film, and *Pete's Dragon* featured seamlessly composited cel animation with live-action photography to an unprecedented degree.

Phillips received an Academy Award nomination for *The Black Hole*, a spectacular interplanetary adventure. His other Disney features include *The Shaggy D.A.; Return to Witch Mountain; Hot Lead, Cold Feet; The Apple Dumpling Gang Rides Again; Midnight Madness;* and *Herbie Goes Bananas*. An unusual Disney assignment was to film the Canadian sequences of *Circle Vision 360*, an attraction at the Disney theme parks.

Frank Phillips is survived by his wife, Patricia, and two daughters, Corliss and Dianne. Memorial services were held on Saturday, April 16 at the ASC Clubhouse.

Continued from page 116

ematographers employed it more frequently, and, as with sound, it found a ready public. Having lost the "dialogue is a blaspheming adulteration" argument, more than a few academic critics took up the "color is corruption" cry. Yet if talkies triumphed in a swift and convulsive revolution, color was a series of indecisive skirmishes fought on a battlefield of imperfect invention with awkward and unwieldy implements. Early color film was not exactly a deeply rich and subtle medium. Crayola is OK, but it's not the stuff of Watteau. The labyrinthian journey of color cinematography had no decisive battle of Trafalgar, no *Jazz Singer,* that once and forever settled the argument. Critical contention flowed along the familiar retrograde lines once offered in defense of silent films. Its cant went like this: black & white is a purer form. It is the original expression of film and because it is abstract is capable of more lofty expression. It is closer to poetry than prose because it eliminates the unnecessary. It can evoke powerful responses in non-linear ways. Yet such argument ignores the fact that modern color film, when employed by masterful cinematographers, appears to have a limitless palette — malleable, rich and capable of wondrously memorable images.

The lesson of these critical skirmishes against technological innovation is to beware of arguments based on the spurious idea that perfection has already been achieved. Those critics who seek to instruct and differentiate between what is "correct and pure" and what is "incorrect and profane" should be regarded with apprehension. For inevitably, such arguments lead down a stagnant, frozen path: the ultimate embalming of film. It is the agenda of a Luddite mind closed to innovation and progress in the sense of the word incorporated in the ASC motto. If we have learned anything looking at the history of innovative technology in film, it is that continuous invention has kept film vital and relevant. Listen closely and critically to the shopworn, recycled dialectics advanced by the antagonists of the digital revolution which is upon us. Whether the antis applaud or rail, film is in the throes of change no less and quite possibly more transforming than sound and color.

From the Clubhouse

Richard Edlund, ASC served as tour guide and Warren Beatty and Annette Bening were among the attendees as the ASC took its show on the road for the April dinner meeting. Edlund and his staff led the group through Boss Film, his state-of-the-art digital production facility in Marina del Rey. The tour followed several works on their path from original conception through intermediate stages to their final polished form.

In addition to bona fide movie stars, the distinguished visitors included: Peter Allwork, UK Aerial Camera Systems; Ayes Baxter, writer; Billy Hansard, Hansard Entertainment; John Karevoll, Dataquick, Inc.; Wayne Loucks, Alan Gordon Enterprises; and directors of photography Paul Ryan and Sandi Sissel.

Upcoming dinner meetings include an Agents' Night, where top cinematographers' agents will discuss their work; The Avant-Garde of Cinematography, where leading-edge commercial and music video directors and cinematographers divulge their philosophies and techniques; and The Crane Shoot-Out, which is self-explanatory unless meant to be taken literally, in which case it's not to be missed.

George Julian Mitchell, documentary producer, film lab operator and film historian, died April 1 in LaMesa, California, of complications following a stroke. He had been an associate member of the ASC for 22 years. He is survived by his wife, Alice, and two sons.

Mitchell was born in Charlotte, North Carolina, on October 3, 1918, and grew up in North and South Carolina. He was educated at The Citadel in Charleston, graduating with an AB degree in 1942. Immediately after graduation he entered the U. S. Army as a second lieutenant, Infantry, and served in this branch throughout World War II. During 1944-45 he was a platoon leader and subsequently a company commander of an infantry rifle company in the 245th Infantry, 63rd Infantry Division, European Theatre of Operations. He remained in the regular army and served in France, Germany, Japan, Korea and Okinawa. He was twice wounded in action. He retired in 1964 as a lieutenant colonel.

During a portion of his army career Mitchell was involved in the production of army training films, and in post-war Germany he made re-orientation films for the German people. After retiring he became active in the non-theatrical field of motion pictures, establishing Cal Photo Lab in San Diego to provide laboratory and production services, both film and videotape, for industrial and sports film producers.

Mitchell later concentrated on producing documentary films, commercials and industrials under the aegis of Centurion Films, Inc. One of the later examples was the final interview given by pioneer filmmaker Karl Brown. He was also actively involved in the collection and preservation of historical motion pictures on behalf of the Library of Congress collection and the Museum of Modern Art Film Library in New York.

Memorial services were held at St. Dunstan's Episcopal Church in San Diego on April 6.

Loyalty **Progress** Artistry

by Richard Shore, ASC

The word progress in the ASC motto (Loyalty-Progress-Artistry) has special relevance at a time when technological innovation is revolutionizing virtually all aspects of film production. In the main, cinematographers have embraced genuinely useful inventions as a means of broadening and enriching their craft. At the same time, more than a few film critics have reacted negatively to innovation. Differences have arisen historically between professional cinematographers and these critics, particularly with respect to two major technologies: sound and color. A review of these disagreements is especially relevant in light of today's digital revolution.

Sound, by which I mean dialogue, and modern color film emulsions changed the face of film forever. In one form or another sound accompanied films nearly from their inception, when it commonly took the form of background or atmospheric music. Talkies, the endearingly quaint word for dialogue films, came after silents were well established as a powerful and uniquely original art with an international and rapidly expanding audience. The public embraced the phenomenon of dialogue as immediately and uncritically as a family welcomes a newborn. When sound emerged from the chrysalis of the laboratory to the real world of film production, it was relatively advanced in a technological sense. Color, on the other hand, arrived in fits and starts with various single-strip technologies competing with one another as well as with the three-strip Technicolor process. As with dialogue, public acceptance was essentially instantaneous, and as these technologies were perfected and made reliable, they were enthusiastically, and with increasing deftness, employed by cinematographers.

These innovations, which those who made film adopted, and the public applauded, were viewed by some critics with tin ear and jaundiced eye: a corruption of a pure art form that threatened the very nature of film. Seen as "commercial novelties," sound, and later color, were to be resisted as disfiguring, degenerative, and intolerably vulgar — something akin to improving the Pantheon by installing Muzak and fluorescent lighting. Were these contrarians wrong? Certainly silent films had evolved a narrative language that was unmistakably original. Talkies, it was argued, were a desecration, an unforgivable barbarism of an already perfected art form. Part of the critics' displeasure arose from an analysis of the nature of the mature silent film which was not without merit. When analytically examined, the silent film reveals a sophisticated visual language comprising relatively brief scenes dynamically joined in a myriad of contrasting and frequently kinesthetic cuts which result in ongoing visual variety. When skillfully employed, these techniques advance a coherent narrative with an uncommon dynamic power that has come to be called "filmic."

> If we have learned anything looking at the history of innovative technology in film, it is that continuous invention has kept film vital and relevant.

Though rigorous in their analysis, the cine-purists found themselves the rear guard in a lost cause. In its insistence on a flow of short, frequently energetic scenes, dialogue filmmakers felt hobbled by much of the language of silent film. Though productive and original, the idiom of the silent film, with its emphasis on editorial movement, lacked the ability to fully convey the subtle and infinitely expressive interplay of human interaction as did the spoken word. Inevitably, dialogue triumphed as soon as technology permitted. The revolution was swift and complete. Still, there will always be, and for good reason, aficionados of the silent film. In fairness to the champions of the silent cinema, the new dialogue films were frequently filmically crude — little more than photographed stage plays. But just as early silents progressed rapidly from peep-show curiosity to the masterpieces of D. W. Griffith and others, dialogue films became increasingly sophisticated in their narrative form. Nor did dialogue films completely abandon the structural language of silent films. In fact, to energize certain kinds of sequences in sound films, silent film devices are nonpareil. To cite a simple but illustrative example, we have but to examine any chase or action scene to see that silent film cutting techniques are alive and well today.

Additionally, and not insignificantly, we should not underestimate the enduring allure of nostalgia. Old films, not just the filmic masterpieces of silent cinema, are often interesting simply because of their age and in fact grow ever more interesting with each passing decade. Eighteenth century clarets fetch astonishing prices when auctioned, even though they are generally undrinkable. And what holds true for an encrusted Pauliac holds true for *The Perils Of Pauline:* appealing because they're antiques.

But barely had the victory trumpets of sound film been heard when another battle was joined. As single-strip color film matured as a technology, cin-

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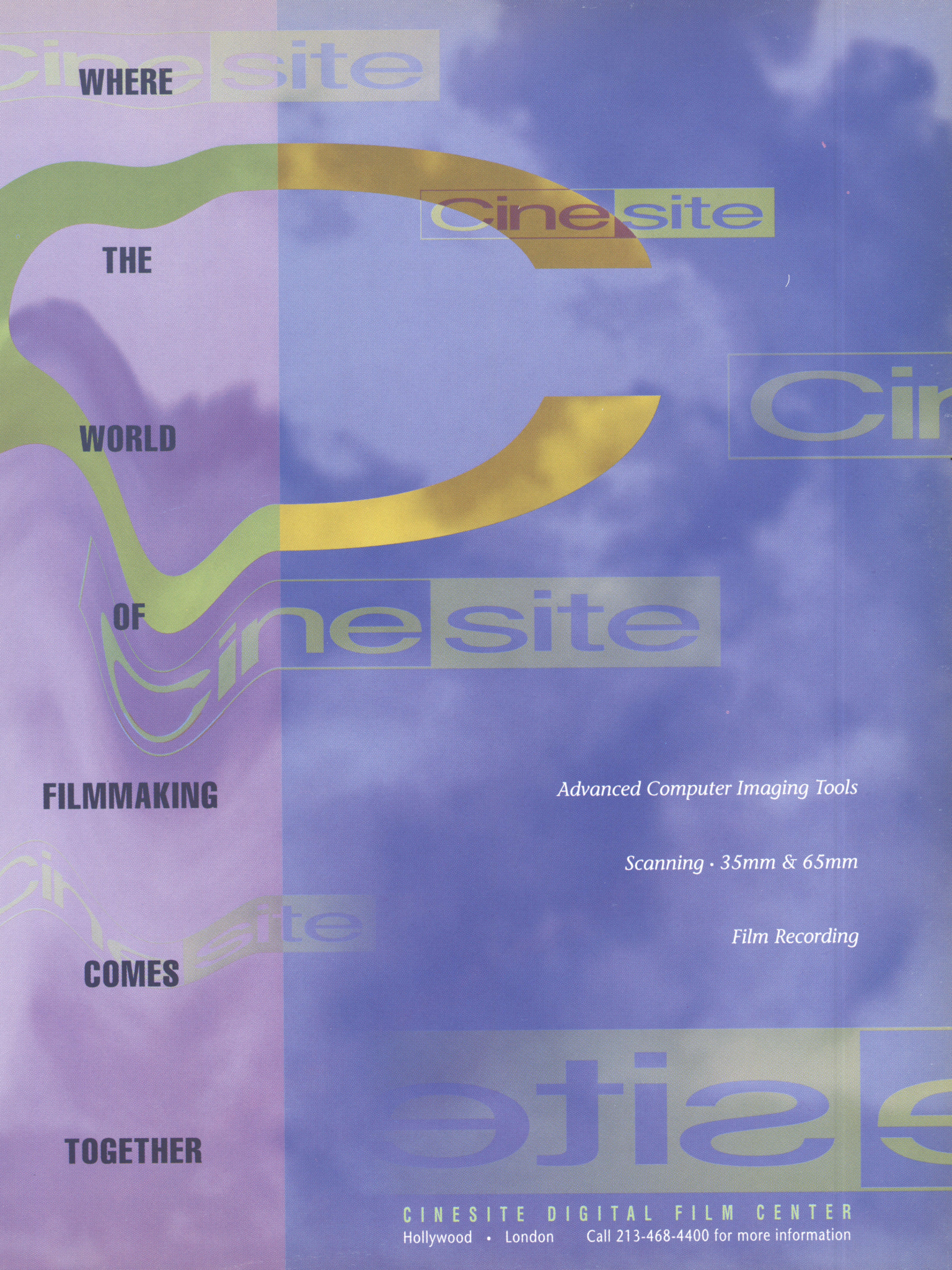
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